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COURSE OF LECTURES ON DISEASES OF THE SKIN; THEIR HISTORY, PATHOLOGY, AND TREATMENT.

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BY

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Lecture II.

Gentlemen,—Immutability and simplicity are the perfection of classification. The former of these attributes depends for its existence on the nature of the base upon which the classification is founded. The latter is a consequence of the former, for to be immutable the conditions to be arranged must be resolved into their elements; the elements must be necessarily few; and in proportion to their fewness will be their individual distinctness and their collective simplicity. These are laws which apply equally to every classification, while these are the principles which have guided me in seeking to establish a new classification of diseases of the skin.

To determine immutability, I have sought in the structure of the skin for the elements of my arrangement, and in attaining those elements I have confirmed its simplicity. I conceive that nothing can be more consistent with Nature's operations, than the descent from normal structure and normal function, to morbid structure and morbid function: hence I have thought myself warranted in claiming for the arrangement I am about to propose the designation *par excellence*, of the natural system of classification of diseases of the skin. You may perhaps consider a more appropriate appellation to be a *structural* or *physiological classification;* be it so: I am more anxious for the correctness of principle and practical application of my arrangement than for the determination of its name.

It may be advanced, Gentlemen, that the title of *natural system* is already in possession of a distinguished name; but it will be my duty to prove to you in the sequel, that nothing can be more artificial than the system of Alibert; and this once proved, the removal of an unfitting term will be a benefit conferred on medical science.

It is not my intention in the lecture of today to occupy your attention with the anatomy and physiology of the skin; but it is necessary to my present purpose to analyse briefly the structure of the cutaneous investment of the body. The elements of the skin concerned in the pathology of this organ are reduced, in their most simple expression, to four in number, namely,—1. The dermis; 2. The sudoriparous glands; 3. The sebaceous glands; and 4. The hair-follicles, with their hairs. These four elements, therefore, which are definite and indisputable, form the basis of an arrangement of the pathological alterations of the skin into as many *primary divisions*, which may be thus stated:—

Primary Divisions.

I. Diseases of the Dermis.
II. Diseases of the Sudoriparous Glands.
III. Diseases of the Sebaceous Glands.
IV. Diseases of the Hair and Hair-follicles.

I. The Dermis, from the nature of its structure, from its active sensibility, and from its function as the producer of its own protective covering, is liable to a variety of pathological changes. In the first place, it may be the subject of *inflammation*, the inflammation assuming a difference of character in conformity with the innervation of the skin and of the system. The *papillæ* so richly spread upon its surface may become unusually enlarged, and this enlargement may be associated with other abnormal phenomena. The *vessels*, which permeate its tissue, may be extensively and separately disordered. Its *nerves* may evince an unnatural and consequently painful degree of ex-

citability. Or its formative function, in relation to the *colouring pigment* of the skin, may be disturbed. The consideration of these pathological conditions will include the whole of the diseases of the dermis; they may consequently be arranged under five heads, the latter representing as many *secondary divisions* of cutaneous diseases: thus,

Secondary Divisions.

1. Inflammation of the dermis.
2. Hypertrophy of the papillæ of the dermis.
3. Disorders of the vascular tissue of the dermis.
4. Disorders of the sensibility of the dermis.
5. Disorders of the chromatogenous function of the dermis.

1. Inflammation of the Dermis.—If, in the next place, we contemplate the effects produced by inflammation in the dermis, in a tissue so richly provided with vessels and nerves; so sensitive of changes occurring within the system, or of disturbing conditions reaching it from without; so susceptible of sympathetic influence from morbid action proceeding in distant parts, and so active in its proper functions: if we contemplate these, we must at once perceive the necessity of arranging the consequences of such inflammation according to the differences which they will necessarily present. The most simple state of inflammation affecting the dermis is *congestive;* the next most simple state is congestion with the superaddition of *effusion;* the third most simple state is congestion with the superaddition of pyogenesis, or *formation of pus;* the fourth state consists in the *deposition* of lymph within the tissues of the dermis; and the fifth state, in the production of *scales* of abnormal epidermis; the sixth state differs from the rest not so much by its effects, which are, nevertheless, various, as in its cause, a *parasitic* animalcule. These differences in the manner of inflammation affecting the dermis constitute so many distinct groups of cutaneous diseases; they are six in number, namely:—

a. Congestive inflammation of the dermis.
b. Effusive inflammation of the dermis.
c. Suppurative inflammation of the dermis.
d. Depositive inflammation of the dermis.
e. Squamous inflammation of the dermis.
f. Inflammation of the dermis from the presence of parasitic animalcules.

a. Congestive Inflammation of the Dermis.—The diseases included in this group are characterised by the ordinary signs of inflammation, namely, redness, pain, heat, and swelling, followed by the usual secondary consequence, exfoliation, or desquamation of the epidermis. They are numerous, and accompanied by constitutional disorder, which in some is remarkable and peculiar, and in others is slight and unimportant and may be regarded as accidental. Their association with constitutional symptoms of a kind proper to themselves, or otherwise, and their more or less marked combination with a similar condition of the mucous membranes of the system, have determined the convenience of arranging them into two subgroups; namely, into such as are characterised by

Inflammation of the Dermis and Mucous Membranes, with constitutional Symptoms of a specific kind;

and into such as are characterised by

Inflammation of the Dermis, without constitutional Symptoms of a specific kind.

The former of these sub-groups comprehends the eruptive fevers, rubeola and scarlatina. Another eruptive fever, variola, presents a very close analogy with the preceding, resembling them in its oriental origin, in the fever which precedes its eruption, in the eruption itself at its first stage, in its infectious and contagious nature, in the activity of its progress, and in the vigilance necessary to be employed in its treatment. For these reasons, as well as from the belief that in essential nature the contagion is the same in all, I consider variola to occupy its rightful position in this group. Willan, it is well known, treated it as a pustular disease, and consequently separated it from its allied fevers, rubeola and scarlatina, associating it at the same time in a group, with whose members it held no one character in common, excepting the comparatively insignificant one of the production of pus.

When these considerations are duly weighed, when their practical tendency is perceived, when it is recollected that variola often terminates fatally before it assumes that character which enables us to discover it as a pustular affection, when, moreover, it is remembered that the disease has well nigh sped its course before it reaches its pustular period, I think that I shall meet with little opposition from my professional brethren in my endeavour to establish variola definitively in my first or congestive group of diseases of the skin. Should this admission be made, varicella and vaccinia must be associated with variola, whatever the conclusive appearances of these diseases may indicate. Varicella is now acknowledged by the profession as an aborted variola, the degrees of arrest of development constituting the varieties of the disorder. This may very fairly be urged as another argument in proof of the malposition of variola in the Willanean classification. Vaccinia, again, has been identified with variola by the labours of numerous observers, and especially by the recent re-

searches of Mr. Ceely, and is now regarded with truth as the small-pox of cattle.

The second sub-group of congestive alterations in the skin includes four diseases, namely, erysipelas, urticaria, roseola, and erythema. Erysipelas forms a natural link of transition between the specific and the non-specific disorders, under certain circumstances putting on characters of severity that would seem to ally it with the former, and developing a contagious poison; under others, and perhaps most frequently, appearing in a harmless and lenient form, and approximating in its characters to erythema. It was only after much thought that I determined its proper position to be at the head of the non-specific congestive diseases, and nearest to those of the specific kind.

b. *Effusive Inflammation of the Dermis.*—Instead of subsiding by the gradual reduction of calibre of the dilated vessels, as occurs in the congestive group of cutaneous diseases, the capillary vessels are apt to relieve themselves of the distention caused by their contents, by effusing the serous portion of their blood; this effusion being commingled with more or less of liquor sanguinis. The exact state of the tissues leading to effusion remains yet to be determined: in some instances, this phenomenon may result from exalted innervation and circulation in the dermis, as in acute inflammation. In other cases it may be the consequence of reduced innervation, but whatever the pathological cause, the effect renders itself manifest by the effusion of a serous fluid beneath the epidermis, so as to raise the latter in the form of vesicles, or blebs, of various size. In reviewing the phenomena of all the known cutaneous diseases characterised by effusion of serum, it appeared to me that they might very properly be arranged in two groups, an *asthenic* group, which should include pemphigus and rupia, two diseases remarkable for the absence of nervous power in the system of the patient; and a *sthenic* group, which should contain herpes, eczema, and sudamina. The former of these groups corresponds, by the large size of its blebs, with the order Bullæ of Willan; the latter represents his order, Vesiculæ.

c. *Suppurative Inflammation of the Dermis.*—Under the influence of a degree of inflammation, probably greater, properly more protracted than the preceding, but certainly modified, the capillary vessels of the dermis pour out lymph, which is converted by a pyogenetic process into pus. The pus in this form of cutaneous disease is deposited upon the dermis, so as to raise the epidermis into small elevations or pustules. The term pustule has been much abused in cutaneous nomenclature. By the ancients every elevation on the surface of the skin, whether pimple or vesicle, was called a pustule; and the same degree of vagueness with regard to the use of the word is occasionally met with even at the present day, particularly among continental writers. We are indebted to Willan for the definite sense in which the term is at present used. The diseases constituting the suppurative group are two in number—impetigo and ecthyma.

d. *Depositive Inflammation of the Dermis.*—By the term *depositive*, I simply mean to call attention to the fact, that as a consequence of inflammation, not terminating in resolution, serous effusion, or suppurative formation, as in the three previous groups, there is a deposition of lymph within the tissues of the dermis, constituting elevations of small magnitude, and attended by a considerable modification in the innervation of the part. These elevations are termed pimples, and the diseases assembled under this group correspond with the order Papulæ of Willan. There can be no question as to the distinction between papulæ and the preceding forms of cutaneous disease, and I think that a fair consideration of the phenomena of these elevations, will lead you to the opinion which I have been led to form of their pathological nature. The diseases included in this group are three: strophulus, a pimply disease of infancy and childhood; lichen, the same affection in adults; and prurigo, a pimply disease, accompanied by excessive hyperæsthesia.

e. *Squamous Inflammation of the Dermis.*—This group is especially characterised by the production of abnormal epidermis, which covers the patches of congested dermis with scales of various size, form, and extent. The essential nature of the disease is congestion and thickening of the dermis, with the superaddition of abnormal epidermic coverings; the latter, even in their smallest form, are not the accompaniments of resolution of inflammation, as in the congestive group; they are equally unassociated with serous effusion or suppuration, being, on the contrary, remarkable for their dryness and chronic habitus. The diseases comprehended under this group, the Squamæ of Willan, are three in number: lepra, a squamous affection, rendered peculiar by the regularity of form of its patches; psoriasis, the same disorder, remarkable for the irregularity of its appearance; and pityriasis, a disease attended with abundant exfoliations of minute size.

f. *Inflammation of the Dermis from the presence of Acari.*—The existence of the acarus scabiei is no longer hypothetical; its presence in the epidermis in cases of itch may be easily demonstrated. That it is the sole cause of all the symptoms of scabies, I conceive to be equally satisfactorily established; the effects of such a cause, therefore, deserve the separate consideration given to them in this arrangement. Willan, it is well known, arranged scabies among his pustular diseases; Bateman followed the example of his predecessor; while Biett and Rayer, with their successors, treat of this

affection as a disease coming under their order Vesiculæ. But surely some distinction should be made between a group of diseases originating in constitutional causes, and one in which the cause is purely local, and removable with the most perfect ease. If this argument have no weight with the Willanites, there is yet another, namely, that scabies has no specific elementary form. I have repeatedly seen scabies without a trace of vesicles, and have extracted from their burrows the living cause of the disease. In this case the scabies was to all appearance a squamous affection, as it was considered by the ancients, and might have been placed in the order Squamæ of Willan. An accidental form of the eruption of scabies has been called lymphatica; another accidental form is the scabies purulenta; and the most usual form is the scabies papuliformis. But all these forms may and do exist upon the same individual, and as many other forms as are consistent with the structure of the skin may also be produced; there is no one form in particular which can be regarded as specific of scabies. If further proof of the non-specific nature of scabies were wanting, we have it in the fact that vesicles, in every way resembling those met with in scabies, may be produced by other irritants applied to the skin, as I have had frequent occasion to remark. In this manner a vesicular eruption, or pseudo-itch, has been perpetuated for months, by the continuance of an irritating application intended to cure the disease.

2. Hypertrophy of the Papillæ of the Dermis.—This alteration in the structure of the dermis constitutes a well-defined group of diseases; the elementary change is expressed in the title which I have assigned to them, but their external characters, those which would locate them in an artificial arrangement, are thickening and abnormal growth of the epidermis. Adopting this latter appearance, without reference to their pathology, Willan has classed the diseases belonging to this group partly among his squamous diseases, and partly in the order Tubercula. Rayer perceived the inaccuracy of this arrangement, and collected them together under their proper designation. The diseases belonging to this group are five in number; namely, icthyosis, tylosis, clavus, verrucæ, and cornua.

3. Disorders of the Vascular Tissue.—After the consideration of simple inflammation of the dermis, and hypertrophy of part of its structure, disorders of its constituent parts come naturally to be examined. Occupying the first place among these constituents is the vascular tissue of the dermis. This tissue is liable to two alterations, to abnormal enlargement or hypertrophy of its vessels, and to a change taking place in its capillary system, which affects the dermis in common with the rest of the body, and is admitted, by courtesy alone, among cutaneous diseases. The former of these alterations constitutes vascular nævus. The latter, which is an alteration of relation between the containing and contained parts, constitutes purpura.

4. Disordered Sensibility of the Dermis.—Next to the preceding I have arranged those modifications of the sensibility of the skin which denote a morbid condition of the nerves distributed in the dermis. With the pathological state of the cutaneous nerves we are wholly unacquainted; we can, therefore, only take cognisance of the symptoms to which this disordered condition of the nerves gives rise. Morbid excitation of the nerves of the dermis is termed hyperæsthesia, and a troublesome form of hyperæsthesia is pruritus. Anæsthesia, or insensibility of the skin, is generally associated with paralysis of distant nerves, and, excepting under certain peculiar circumstances, cannot be localised in the skin. Anæsthesia consequently does not belong to this group of diseases.

5. Disordered Chromatogenous Functions of the Dermis.—Alteration of colour in the skin is a change which presents a considerable range of variety. In some instances there is excess or *augmentation* of the natural pigment secreted by the dermis, as in nigrities and pigmentary nævi. In others there is *diminution* of pigment, as in albinismus and vitiligo. In another group, again, we have morbid *alteration* of the pigment, constituting those unsightly patches on the skin denominated ephelis, lentigo, chloasma, and melasma. While, under the title of *chemical colouration*, I have ventured to assign a place in this division to an alteration that might otherwise be excluded, namely, the slate-coloured stain produced by the oxidation of silver in the tissue of the dermis.

II. Diseases of the Sudoriparous Glands.

Our knowledge of the existence of these organs is comparatively recent; they were first pointed out and described by Breschet and Roussel de Vauzeme, within the last ten years, and the first engravings of them and their beautifully spiral excretory ducts, from drawings from nature, published in England, appeared in the folio work of Anatomical Plates, edited by my respected friend, Dr. Jones Quain, and myself. It is not, therefore, to be expected that sufficient observations should have been made in so brief a period to determine the pathological states and appearances of these organs. Sufficient, however, is known with regard to the altered states of the perspiratory secretion, to enable me to arrange the morbid phenomena of this fluid under three heads; namely,

Augmentation of secretion.
Diminution of secretion.
Alteration of secretion.

Augmentation of secretion is met with in several diseases, particularly in rheumatism; but instances likewise occur in which excess of this secretion constitutes a specific disease, as in the sudor Anglicanus of the fifteenth century, and in a similar disease, the "suette" or sudatoria, which still continues to show itself from time to time in France, and has latterly appeared in Paris. I am not aware of the existence of any disease in which *diminution* of perspiration can be regarded a specific character, but it is far from improbable that when the attention of practitioners is directed to this point, disorders having a reduction or cessation of this function for a conspicuous symptom may be observed. I have met with several striking peculiarities in this respect in persons in health, and at a future time, with the addition of more, I think that they may be deserving of record. Under the head of *alteration* of perspiratory secretion, are included those curious instances of change in the odour, colour, &c., of this fluid which have been detailed by dermatological writers.

I have entered so fully into the explanation of the two first divisions of the natural system of classification, as to be unable to complete the third division in the present lecture. I shall, therefore, Gentlemen, reserve the demonstration of my arrangement of the diseases of the sebaceous glands, and of the hairs and hair-follicles, until our next meeting.

CLINICAL LECTURE
ON
THE DIAGNOSIS OF DISEASE,
DELIVERED AT
KING'S COLLEGE HOSPITAL,
October 10, 1842,

By R. B. TODD, M.D., F.R.S., Physician to the Hospital.

Gentlemen,—As this is the first opportunity I have had of addressing you on clinical matters this session, I shall make my remarks of as general a kind as possible, and shall endeavour to refer to several of the cases now under my care: my theme shall be diagnosis.

The art of diagnosis, or that of distinguishing diseases, must obtain a large share of your attention, while you avail yourselves of the opportunities which the hospital affords. Indeed, the degree of benefit that you will derive from witnessing hospital practice, will be proportionate to the extent to which you exercise yourselves, in distinguishing the maladies with which the patients are afflicted, or the attention you give to the means by which the physician or the surgeon ascertains the nature of those complaints.

Common sense teaches us that an accurate diagnosis is the first step to the adoption of a rational plan of treatment; and I may add, that an exact diagnosis ought to include the determination of the exciting cause of the malady. If, for instance, we ascertain that a disease is one of irritation, it will help us greatly in the adoption of a plan of treatment, if we can likewise find out the nature of the irritant. In some cases, indeed, the sole object of the physician is to find out the exciting cause of a certain train of morbid phenomena.

For example—A child was brought into the hospital, not many days ago, labouring under convulsions, which manifested themselves in violent spasmodic twitchings of the extremities and face. Now this affection may arise from various causes; but experience tells us that one of the most frequent is the presence of undigested matter in the bowels, exciting irritation there, which, through the visceral nerves, is communicated to the cerebro-spinal centre. The history of this case evidently pointed to this cause, and the treatment was directed accordingly. Free purging brought away from the bowels *a large quantity of plum-stones*, and other undigested matter, and the little patient very quickly got well.

Several months ago, a man was brought in suffering from constant vomiting and hiccup; he had had no passage from his bowels; his voice was weak and stridulous. Before I saw him he was leeched on the abdomen, and purgatives were administered, which, however, he speedily vomited. On my arrival, some hours after his admission, I found that this treatment had been unavailing. Knowing that these symptoms are often the result of obstruction to the bowels by an incarcerated hernia, I instantly examined the inguinal rings, and found a hernia in one of them, which I had no difficulty in reducing. The man speedily recovered; but the delay of twenty-four hours more, without the removal of the cause of his symptoms, might have been fatal to him.

A patient came into the hospital during the summer, on account of a train of dyspeptic symptoms, under which he had been labouring for a considerable time, and for which he had submitted to various modes of treatment. At first we could make nothing of him: at length the examination of the urine threw light on the cause of his sufferings, and suggested the use of mineral acids; in a week our patient was cured of all his complaints.

These are common cases, and of frequent occurrence; and the inability to recognise their true nature, must have been fatal or most injurious to the poor patients, and highly discreditable to the practitioner.

It sometimes happens that, in two cases, nearly the same train of symptoms is produced by very dissimilar causes, and that a

diametrically opposite mode of treatment must be pursued in each. In the expressive language of Dr. Gooch, "Two patients complain occasionally of dimness of sight, swimming of the head, singing in the ears, and observe, that if they turn the head on one side to look at an object, they feel as if they should fall; but the one is plump, florid, and has a full pulse; the other is pale and thin, has cold hands and feet, and a pulse small and feeble. One practitioner bleeds them both; the other bleeds the one, but does all he can to give blood to the other. The latter cures both his patients; the former cures the one, but ruins the health of the other: but such is the nature of the human mind, that the cases *for* a preconceived opinion are retained easier than those *against* it. He remembers his good deed, forgets the other, or calls the case 'anomalous,' and marches on, without the slightest doubt that bleeding is the universal and sovereign remedy for dimness of sight, swimming of the head, and singing in the ears, save and except only in 'anomalous' cases."

Dr. Gooch relates two cases in point: in one, an erroneous diagnosis led to a fatal result; in the other, the true nature of the malady was detected just in time to adopt the line of treatment, which alone could prove successful.

The diagnosis of any disease necessarily involves a careful analysis of its phenomena, or symptoms; and it is obvious that to enable us to judge what functions or processes are astray, we must have at least some knowledge of them in the state of health. How then do we proceed to make such an analysis as I refer to?

It would be worse than useless to lay down any uniform rule for your guidance in questioning patients, or in analysing their symptoms; you will soon learn that a different plan must be followed in almost every case, and that the leading features of it will afford the best landmarks to direct you to the less prominent ones. It must, then, be your first object to seize upon the more obvious and conspicuous phenomena which each case presents.

There are certain questions which must be answered in every case, as bearing upon both the diagnosis and the treatment. The age of the patient is one of the most important. Age materially modifies disease; and certain maladies, very common at one period of life, are rare, or do not occur at all, at another. Malignant disease seldom occurs before the age of twenty-five, and tubercular phthisis is rarely met with after that of sixty.

You must always inquire into the habits of your patients. Intemperance, the fruitful source of disease, is often a great hindrance to the successful application of remedies, and, even although discontinued for the time, it exerts a weakening influence on the system. You cannot deplete the intemperate man, nor employ the same antiphlegistic means with him, as you would with the temperate.

The usual employment or trade of the patient must be ascertained. It is well known how often disease results from the nature of a man's occupation. The sedentary man is a prey to dyspepsia; the man of easy circumstances, good living, and little activity, is prone to gout; he who is daily exposed to the vicissitudes of weather, suffers from rheumatism; the ill-nourished and badly clad, who are, at the same time, the victims of intemperance, suffer from brain disorders, or from dropsy, consequent on chronic renal, hepatic, or cardiac disease. The painter, and all who work with lead, labour under the effects of a slow poison, which, however, does its work with sufficient speed, if the patient be of intemperate habits.

It is frequently of importance to ascertain the nature of the diseases to which the patient's blood-relations, who preceded him, were subject. The doctrine of hereditary disease is well established; and the more we know of the real nature of many of the processes of the animal economy, the more reasonable does this doctrine appear to be. In gout and scrofula it has been long admitted; in phthisis, so certain is it, that, in a doubtful case, the fact of the occurrence of the disease in a father or mother is a formidable one for the diagnosis; in asthma, too, it can scarcely be doubted that a morbid tendency may be handed down to posterity; and the unquestionable transmissibility of insanity from father to son, shows that the *mens sana in corpore sano* is to be desired by the former, not only for his own sake, but also for that of his offspring.

These points having been inquired into, your next object must be to ascertain the main cause of complaint which has induced your patient to apply for medical assistance. This leading question will soon open a door for others, from the replies to which, in the great majority of cases, you will be able to obtain such information as must direct you to the function or functions, which are principally involved. Do you discover that the function of respiration is affected, you investigate the nature of the disorder by every means which the present state of knowledge places within your reach; and here let me remark, that all-important as is the employment of the stethoscope to your diagnosis, the careful observation of other signs and symptoms is of the utmost value to the treatment. Not the least valuable of these is the expectoration: how often will it lead us to detect latent disease in fever! the viscid, adherent mucus, scanty in quantity, sometimes pale, not unfrequently rust-coloured, ought always to make us explore for bronchial or pneumonic inflammation. In phthisis, although we pretend not to cure, we may re-

lieve suffering, and retard the progress of disease. The investigation of the sputa in this disease frequently suggests measures of great benefit to the patient. Two patients now in the hospital afford an illustration of this remark: the one, a man in Fisk ward, had on his admission a very violent cough, with rust-coloured sputa, which I considered to result from pneumonia excited around tubercles. Local bleeding and small doses of tartarised antimony speedily subdued the irritation in the lung, and he has since been comparatively easy, although the ulcerative process has advanced. The other, a girl, in Augusta ward, with evident marks of tubercular deposit in the apex of the left lung, complained greatly of violent cough. The sputa were viscid and adherent, and appeared to come from an inflamed or irritated bronchial surface. Leeches applied beneath the clavicle gave marked relief.

I may refer you also to the boy with bronchitis in Rose, and the man with asthma in Sutherland ward; in both the sputa gave useful hints for treatment. In the boy the breathing was accompanied with both rhonchus and sibilus, and the expectorated matter was thick, viscid, and adherent; he was much benefitted by antimony, and is now nearly cured. In the man, although his breathing was much more distressing, his sputa were thin, watery, frothy, and he was benefitted by a stimulant and antispasmodic treatment. The æthereal tincture of lobelia inflata appeared to afford him much relief.

In heart disease, although we dare not speak with certainty without the aid of auscultation, a tolerably accurate diagnosis may nevertheless be made, from the careful investigation of symptoms. Thus, a peculiar character of pulse will often at once indicate imperfection of the aortic valves; a violent impulse of the heart against the chest, and its apex striking below its natural position, will denote that the organ labours to overcome an obstacle, and has acquired an increase of size; engorgement of the veins and regurgitation in those of the neck, with enlarged liver, and more or less of dropsy, are evidence of dilated cavities of the right side. I strongly advise you to accustom yourselves to attend closely to the symptoms in these cases, as affording many useful hints respecting the treatment and progress of the disease.

Long before the stethoscope came into vogue, a friend of mine who has favoured me with his presence here to-day (Mr. Adams, of Dublin), distinguished with great accuracy many cases of diseased heart, by the symptoms only, and he has written a paper on this subject in the "Dublin Hospital Reports," which would do him credit, even in the present improved state of our knowledge of cardiac pathology.

When the motor or sensitive powers are impaired, when the speech is injured, and the mind more or less affected, then we look to the central organ of animal life and consciousness, the brain, as the seat of disease; and here the most success in diagnosis will be obtained by him who keeps best before him the functions of that organ: and when it is considered how complicated are the functions of this wonderful organ, how intricate its structure, it need not excite surprise that the diagnosis of disease in it should be attended with very great difficulties.

The brain is the organ of the mind; that is, it is that part upon which mental changes immediately act, and through which mind and body are connected, and derangement of either will affect the other; a mind diseased will produce disorder of the brain, and organic derangement of the brain will produce mental disorder. You must go to lunatic asylums to see the former class of cases; but here we meet with many instances in which the mental aberration followed the organic disturbance.

And it is not difficult to account for all this; the convolutions of the brain are those parts which are immediately concerned in the development of mental phenomena, and the grey matter of these convolutions is that portion of them which is intimately connected with the action of the mind. This is a highly vascular substance, and one of extreme delicacy, with very little physical cohesion. Every time I dissect the brain, I am astonished how a mechanism of such exquisite delicacy so often escapes disease; and I am prepared to find that changes apparently trivial in it, produce effects on function of a serious kind. The pia mater is a membrane composed of a very delicate areolar texture, supporting numberless ramifications of blood-vessels, from which still finer and still more numerous ones penetrate the grey substance. This membrane covers every convolution, and therefore spreads over an immense extent of surface, far greater than that of the arachnoid, for it sinks into the furrows between the convolutions.

The mind acts upon the brain; continued mental effort causes a determination to the grey matter: this abundant flow of blood cannot fail, if long continued or frequently repeated, to derange the nutrition of this matter, to weaken its cohesion, and to impair that delicate mechanical process, whatever it be, with which consciousness and mental emotions are associated. On the other hand, any physical cause affecting the blood itself, or the blood-vessels, or any of the adjacent textures, may give rise to a similar disorder of nutrition in the grey matter as the primary affection, and the mental disturbance will follow.

Whether the explanation I have given be correct or not, certain it is that when the mind is disturbed in consequence of brain disease, the grey matter of the convolutions is organically affected; and this explains

what at first appears an anomaly, namely, that inflammatory affections of the membranes of the brain produce more serious disturbance of the mental functions than a deep-seated disease of the brain itself. One man may have an apoplectic clot in the centre of the hemisphere, impeding the voluntary power of nearly one-half of his body, and yet his mind will be clear and his intellect vigorous. Another may have merely an inflammatory affection of a small portion of the pia mater, and be affected with violent delirium.

Again, the brain is the organ of volition, and also of sensation; and both these functions suffer to a greater or less extent when that organ is the seat of disease. Hence, when you are investigating the nature of any cerebral disorder, you must inquire minutely into the condition of these functions. But remember that the destruction of motion or of sensation in any part, does not necessarily imply central disorganisation; the brain is extended into the various parts of the body by its nerves; and it is most probable that there is scarcely a part in the body which does not receive nerves which are continuous, or connected with the cerebral fibres. The local derangement of one of these nerves may produce the same effect, but probably to a less degree, as disease of that precise part of the brain with which the nerve is connected.

Now, of all the points to which I referred in connection with brain disease, we have at present, or have lately had examples in the hospital. In one case, that of Shoesmith, in Sutherland ward, you have an instance of injury to the motor power, resulting, as the history of the case indicates, from a sudden effusion of blood into some part of the hemisphere; the clot is deep-seated, and affects only the white matter, by compression, or actual solution of continuity of the fibres, to such an extent as to intercept the influence of the will upon one-half of the body. At an early period of the case we observed the interesting fact, that although volition exercised no control over the lower extremity, the influence of the spinal cord was unimpaired; for, while the patient was utterly unable, however great his effort, to move the limb, the slightest touch to the sole of his foot caused the whole leg and thigh to move freely and extensively. But no such phenomenon was manifested in the upper extremity.

In a second case, motion is slightly impaired; and such is the nature of the disease that the motor power is also aggravated at particular periods. This man (Callender, in Sutherland ward) came in with imperfect paralysis of the *left* upper extremity; he has also had five epileptic fits, four before, and one after his admission. In the last fit it was observed that the muscles of the left arm and forearm were convulsively twitched prior to the invasion of the fit, and were so affected during the continuance of it. There has been also in this case some impairment of memory. The disease here is probably superficial, and irritant in its kind, capable of depressing the volition power; and, at times, under the influence of a cause which we cannot detect, of exciting the nervous power, so as to throw the muscles into convulsive action. The disease, as in all such cases, is situate on the opposite side of the brain, and the patient has greatly benefitted under mercurial treatment, and local counter-irritation over the *right* parietal bone.

In a third case, motion is impaired, but not as the result of disease in the centre; here the cause is peripheral. The patient, Grogan, in Sutherland ward, is a silk dyer, and while at his work was in the habit of sitting in a draft of cold wind, which blew upon his left side; the whole of that side has been benumbed, and the patient has the appearance of a hemiplegic. There is no dragging of the leg as in paralysis from diseased brain; the muscular power is considerable, but the patient is unable to adjust the actions of his muscles to the finer movements of the hand. The left side of the face looks stiff, and the cheek hangs, and expression is almost entirely absent from it. There is no pain in the head; no affection of the organs of special sense; no vertigo; and the affection has come on gradually, and seems due to a cause very likely to produce such an effect, namely, the influence of cold upon the muscular nerves of the exposed side. It is probable, too, that the nerves are not alone affected, but that the muscles have also suffered in their nutrition from a similar cause. The patient is evidently deriving benefit from a local treatment, and tonics.

A not uncommon example of this peripheral form of palsy, is that of the portio dura, resulting from cold, a case of which has only lately left the hospital cured. In such cases, no doubt, the low temperature impairs the nutrition of the nerve, and its physical structure remains altered, until time admits of the restoration of the nutritive process.

A fourth case in Augusta ward, Felicie Buhler, affords an interesting example of an affection involving a single nerve, and the textures associated with it. In this woman, as you may now see her in the ward, the power of elevating the right upper lid is destroyed; she has that form of paralysis named ptosis; and there is likewise paralysis of all the recti muscles of the eyeball, except the external one, so that she squints outwards, and of the iris, so that the pupil was permanently dilated. She has at present no other ailment, and she seems to recover gradually the power over the levator palpebræ muscle.

But at the time she was admitted, the local palsy was complicated with considerable

general cerebral disturbance, for she was almost speechless, partially comatose, and after admission speedily fell into apparently profound coma attended with some stertor, from which she did not recover for many days.

The disease came on gradually as she was travelling on the continent with a family in which she served as nurse. There was no distinct evidence of paralysis of any other muscles. A good deal of restlessness, evinced by tossing in the bed, and frequently putting her hand to her head, seemed to show that the other symptoms were accompanied with pain, to which she was not altogether insensible.

This case I considered to be an inflammatory affection of the third nerve just at its emergence from the crus cerebri, destroying the motor power of that nerve, and causing some increased effusion at the base of the brain, which, by its pressure, gave rise to the comatose symptoms, and the loss of the power of speech.

That this was, in all probability, the correct interpretation of the symptoms under which this woman laboured, may be concluded not only from the reasonableness of it, but likewise from the very favourable result of the treatment adopted. She was leeched on the right temple, and brought as quickly as possible under the influence of mercury. Counter-irritation was employed, but nothing seemed to take effect so quickly as an issue in the scalp along the line of the sagittal suture. The day after the application of this remedy she seemed to awake from her comatose condition, and has progressively recovered.

I have briefly narrated these cases to show you that, although the diagnosis of brain disease is surrounded by many difficulties, a careful analysis of the symptoms founded upon a correct appreciation of the anatomy and physiology of the nervous system, may contribute largely to remove the obscurity which hangs about the phenomena of these affections.

Time would fail me were I to say much upon the diagnosis of abdominal disease. Here we lose, in a great degree, the valuable assistance which auscultation affords us in chest affections; but percussion and palpation, or the manual examination of the viscera through the abdominal parietes, afford us opportunities of judging of the seat of disease, which we do not possess for head affections. The same attention to the natural functions is necessary, as I insisted on for the latter class of diseases, in the analysis of the morbid phenomena; and in these cases we often derive great assistance from attending to the chemistry of the body, by examining the excretions, the urine, the bile; indeed, without the aid of chemistry we cannot, in many instances, pretend to form a correct diagnosis.

In some instances it becomes a matter of nicety, and often of great importance, to determine truly distinguishing features, when a similar train of symptoms belongs to two different classes of disease; this is, to make the *differential diagnosis*, as it has been called; as, to determine between pleurodyne and pleurisy; between empyema and hydrothorax; between rheumatism and gout, and so on; and here it will often greatly simplify our task, if we can lay hold on some prominent symptom, specially characteristic of one or other malady, or, in technical language, some *pathognomonic* sign; as the existence of the chalky deposit is pathognomonic of gout, or of sugar in the urine of diabetes.

To show you what may be done in the diagnosis of extensive disease, and as an encouragement to you to exercise yourselves in it in the wards, I will briefly recount to you the particulars of the case of dropsy, the post-mortem examination of which you witnessed a few days ago.

The patient, a young man, about thirty years of age, had been dropsical for several weeks before his admission, which took place in August. He was not a temperate man. A year ago he suddenly lost his speech, and had other symptoms of a head affection, which he could not clearly detail. He recovered from this attack, and remained well until the dropsy made its appearance.

We found him in very general dropsy; the face, abdomen, scrotum, and lower extremities all swollen; the last two to a very great extent. In investigating the cause, the liver was first examined, for he had a sallowness of colour which excited suspicion of the unsoundness of that organ. But nothing abnormal could be found there. We next examined the urine; it was scanty in quantity, of a dark smoky-brown colour, of low specific gravity, and contained albumen in great abundance; and, in auscultating the heart, we perceived a systolic bellows-sound in the course of the aorta, with a feeble diastolic sound.

The symptoms resisted all treatment; the dropsy never gave way. A week before his death diffuse inflammation of the cellular tissue of his right leg and thigh set in, preceded by rigor and other constitutional symptoms; the urine for a day stopped completely, but flowed again. Two days before his death he had an epileptic fit, in which his right side was chiefly convulsed; the abdomen became very painful on pressure, swollen and tympanitic, and he was affected with severe spasmodic singultus. Under these symptoms, which seemed referrible to the circulation of a poisonous agent, urea, in the blood, he sank.

Before we opened the body, I stated to you that you would find in the right leg cellular, and, perhaps, venous inflammation; in the abdomen, recent peritonitis, chiefly affecting that portion of the peritoneum which

covered the diaphragm; the kidneys in the second stage of granular degeneration, and in a state of great vascular congestion; in the chest, obstructive and slightly regurgitant disease of the aortic valves. I was unable to express an opinion as to the disease in the head, but I said that it was not improbable we should meet with marks of old disease.

And you remember how true the prognostication was, and what a variety and extent of diseased action was exhibited in the body of this poor patient. All the organs were found diseased, as the symptoms during life had led me to expect, and the brain showed marks of an old apoplectic cyst existing in the fissure of Sylvius.

In conclusion, let me exhort you not to content yourselves [solely with making the diagnosis of the diseases you witness here, but to watch the progress of each case; to look out for every new symptom; to compare the cases one with another. It has been truly said that "all observation is suggested by comparison," and experience is founded in a well-directed and extended observation.

A large proportion of our therapeutics rests upon the results of experience; and the practical tact which each individual acquires in the application of remedies must be derived from the same source. You cannot, therefore, begin too soon to acquire those habits of observation, and that experience, upon which your success as practitioners must, in a great degree, depend.

LECTURE, CALLED CLINICAL,*

DELIVERED BY

MR. GUTHRIE

AT THE

WESTMINSTER HOSPITAL,

ON SATURDAY, OCTOBER 15, 1842.

Badness of the medical arrangements of the hospital.—Liberties which the student may take with the lecturer.—His anxiety to retire from office.—Medical students unable to spell.—Their "education" in London cheaper than a shoe-black's.—"Reforms" in the college.—The spy system.—Custom of the medical schools to give false certificates.—How, under the certificate system, to become a member of the Royal College of Surgeons in London, without having seen disease, or known a muscle when shown it.

GENTLEMEN,—I desired last Saturday that notice might be posted up in the hall, of my intention to give an introductory this day to my lectures, having refused to permit my name to be placed in the list of clinical lecturers for this season, because I do not choose to promise that which I may not perform. I read in THE LANCET early in the present year some uncivil observations on this subject, from some one purporting to be a student; my mouth was immediately closed; not one word have you heard from me since. I have, however, now reason to believe that the gentleman who wrote those remarks is not a student, and I do not think it right to punish the innocent for the guilty; I shall therefore notice some of these excellent cases, and bring the individual subjects of them before you. For the first six months of this year, these cases brought me, almost without an exception, every day to the hospital; and I shall be happy to think that even one-half of you had paid them a portion of the attention they received from me. It appears to me that some gentlemen wish to deteriorate the merit of this hospital, both as relates to the relief the poor receive, and the instruction which students obtain at it, by inveighing strongly against the management which does and does not take place within its walls. I regret very much that many of the assertions of mismanagement are, in all probability, true, as relates to medical arrangements, many of which are not, in my opinion, fitting for a public hospital in London: they are all of them, however, good, and well adapted for a parish infirmary; and as long as it may be thought right to continue them, the hospital must remain in a depreciated state, both as a place of refuge for the sick poor and as a school of instruction.

When things become so bad that any change must be for the better, we may hope for improvement; and I care not how soon this takes place, for I confess I shall look forward with the hope that this hospital will then rise from its remains, and assume that character and obtain that reputation it never can have under existing circumstances. I have done my endeavour to remove the abuses and grievances of which I am sensible, but I abhor all disputes and squabbling, more particularly when they become personal; and I have no wish to contend with gentlemen whom I personally respect, although I believe them to be in error, and even if I thought it right to do so, I have not the time to spare which the forms of the hospital require.

With respect to you as students, I have not recommended one to come here, I have not invited you in any way, you have come because it suited your own views, and being here I am at all times happy to give you every information in my power. My days of attendance are Tuesdays and Saturdays, according to the rules of the hospital; but you will see it posted in the hall that I also attend on Thursdays, believing that every physician and surgeon should see every par-

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* Forwarded last week to THE LANCET-Office for publication, with the title "CLINICAL LECTURE."

ticular case three days a-week, and when I have any one in danger I visit them every day. You need never expect me before a quarter past one, and never wait for me after a quarter past two, before which time the assistant surgeon will go round with you if I should be absent; and whenever he does the duty of one of the surgeons, he ought to receive a regulated proportion of the money which the seniors derive from the fees you pay for permission to attend.

I am never so contented as when you make yourselves constantly known to me, by obeying my injunctions, so frequently repeated, of walking up to me and repeating your names in my face; I do not desire one word more. When you wish anything from me, you have only to ask it; when you desire to have a clinical lecture on any subject, you have only to show to me that you have yourselves attended to it, by presenting your own notes of the case or cases on which you wish to have my opinion, and your request will always be granted: you have simply to conduct yourselves with order, regularity, and strict attention to what I say to you, and there is nothing I can do that I will not do to serve you; but as to obtaining anything from me by any other line of conduct, it is not to be done. I have never perceived the slightest mark of personal disrespect to myself on any occasion, and I believe it is the last thing any one of you would think of offering; and as to what idle persons may write in your name, we will not in future give it any consideration. I shall judge of you by what you say and do here; and shall think the better of any young man who comes up to me boldly, but respectfully, to state his wishes or his grievance, even if the complaint should be against myself.

With respect to the office I hold here, I value it very little as to the money it brings. There are two or three of the influential governors who know it is at their service whenever they please to ask it, and, in fact, I only keep it because I hope the day is not very distant when I may be able to make my resignation more useful to the profession, and to the public, than it would be at the present time. I think it exceedingly unfair to the younger men who are hanging on about an hospital, that they should have no hope of the opportunity of distinguishing themselves, except by the death of, perhaps, their best friend. The governors of the Ophthalmic Hospital at once assented to my proposition, that every surgeon should retire when sixty years old; and I must retire when I shall have attained that age, although, perhaps, the hospital is indebted to my constant care and superintendence for its existence. I proposed to the governors of this hospital that every physician and surgeon should retire at sixty-five years of age, and they were pleased to make it a law for all such persons who may in future be elected. They spared the present ones, very much against my wishes; and have perpetuated an evil for some twenty, or, perhaps, thirty years, which I hope myself and my colleagues will have the virtue to remove.

When I had the honour of being elected a member of the council of the College of Surgeons, I found regulations existing which had been made many years, requiring an apprenticeship, or studentship, for six years, one only of which was required to be spent in studying surgery in a London hospital, for which year the same sum was paid as you pay now, the age for examination being twenty-two. This I considered with others a great error, and we applied ourselves so steadily for its removal, that we have succeeded in reducing the term of study to four years; the age, to twenty-one. If the young candidate for the medical profession remains at school until he is seventeen, he will in all probability have profited considerably by its ordinary instruction, and have gained sufficient preliminary information to qualify him to pass through life without remark, if not with much credit; and I hope the forthcoming Act of Parliament will enable us to secure such preliminary education to all, for I regret to say that among those students who entered the profession some years back, and are only now presenting themselves for examination under the regulations of 1835, there are many who cannot spell very common words in their native language. If the first years of professional education of a student were passed in the apothecary's shop of an hospital, or that of a practitioner, visiting the sick wards occasionally, he would acquire a sufficient knowledge of the making up of medicines, and of the articles themselves, and something of other things that would smooth his path, and remove many difficulties which he would otherwise experience by going at once to lectures in an hospital. When we augmented the course of surgical study from one year to three, we took care you should pay no more than was expected from you thirty years ago, and the whole amount of fees for hospital attendance, including the practice of the physicians, as well as of the surgeon, and all the lectures you are required to attend, does not exceed at this hospital £70, and is very little, if anything, higher at any other. You could scarcely learn to black shoes in a fashionable manner, certainly not to make them, for less money. We did more; we considered that if we caused your parents to keep you at school until you were seventeen, instead of sending you into a shop to open the door, and perform other menial offices, at fourteen or fifteen, and thereby incur an additional expense in your education, we might with propriety save them the expense they would incur in your support the last year, to twenty-two, and we made the period of examination twenty-one instead of twenty-

two. We also removed the great grievance of which so much was made, of confining instruction to the London schools; and enabled a student, who might live in a provincial town, which had an hospital and school competent for the purpose of instruction, to pursue his studies at home, and therefore at little or no expense. I always have thought that we, who succeeded in effecting these things, had done the profession some good service; and I have been surprised lately to see myself accused of doing exactly the reverse: it is true I have not thought it necessary to enter into explanations on these points. I have, I fear, in fact, hid my light under a bushel. I have now ventured to state the fact, and I trust that those who have previously been misinformed, will not feel offended at my correcting their accidental misrepresentation; I will even beg of them to try me in future by a different rule, and whenever anything is done in which I may be supposed to have had a part, in which public justice, or the best interests of the public, do not appear to be sufficiently consulted, to believe that the transaction has not had my support. I am aware that in causing you to attend an hospital, and to study anatomy for three years, the objection is made, that a horse may be brought to the water, but that he cannot be made to drink, which I do not dispute. I have, however, seen some thousands of horses taken to water, and have always seen them drink, unless they had lately drunk before; and I am of opinion that if a young man attends an hospital regularly, he is much more likely to learn than if he should not attend at all. The proof of such attendance is desired from the reports and certificates of the teachers; and if the regulations on these subjects had been duly complied with, that proof would have been complete. The surgeons and teachers of the large hospitals declined to comply, and the college gave way. I need not tell you the regret I felt on the occasion, and I may add, that there is no abuse so great in the profession as the manner in which gentlemen grant certificates; sometimes even of an attendance which has never taken place, and for persons not actually in the country, all, I am willing to hope, out of pure negligence, but the subject is too painful to comment upon; and my only consolation on this point is derived from the belief, that those irregularities will, in the course of the ensuing year, be effectually corrected.

With regard to the lectures you are ordered to attend, I am of opinion that every student should be a perpetual pupil to all, but I would not advise a regular attendance on more than one course of each, in order that the student may learn the history of the art and science he is afterwards to acquire a knowledge of, by his own labours, under the observation and with the assistance of his teachers. On the study of anatomy I have much to say, but I have only time to point out to you and to exhort you to avoid the error of learning anatomy in one place, and physic and surgery in another. Nothing can be more absurd than the peripatetic mode, so frequently adopted, of walking from one end of this great town to the other to study anatomy, and back again to learn physic. They should both be taught at the same place, so that all the teachers may act together for the good of the student and the public; and where this is not done as it ought to be, I would recommend you not to attend.

I have heard it said that it is beneath the dignity of an hospital surgeon, or teacher, to ascertain whether his students are present or not, and that it is equally derogatory to the character of a student to have a watch set upon his attendance. To which I have always replied, that the regius professors of divinity, and others of equal rank in the Universities of Oxford and Cambridge, do not think it unbecoming in them to ascertain that their students attend regularly, and that hospital surgeons and teachers may do with great propriety what such men as these have done; whilst the sons of the greatest men in this country are regularly marked off every morning as they go to chapel in their colleges, and the defaulters noted, medical students of the same age may and ought to submit to the same ordeal, which is purely for their advantage.

The inattention shown by many professors with respect to the attendance of their students, renders another functionary necessary, who is called a grinder. As the time approaches for the final examination of the student at the College of Surgeons for the diploma, he becomes then sensible of the folly of his conduct in not attending to his studies, and he seeks a gentleman who shall stuff as much information into him in a few weeks as may answer his momentary purpose. Thus crammed, as the term is, he fixes his day to go off, perfectly satisfied that he would forget all he had learned from his grinder in a month, if the grinding were not daily sustained. Under these circumstances young men have frequently assured me they could describe a part or a disease they had not seen just as well as one they had; I have myself heard a student describe very well the biceps flexor cubiti muscle, and not know it when shown to him. Anatomy is only to be learned by dissection, disease by attendance at the bedside of the sick in an hospital. There is then to be acquired that confidence in your own knowledge which will enable you to manage and subdue a complaint without assistance from your teacher, and which confidence is only to be acquired by experience and observation; your whole life, in fact, must be one of continued study, and you will at last die having much to learn.

THE ORIGIN AND THE MEDIUM OF OPERATION OF PULMONARY TUBERCULAR MATTER.

To the Editor of THE LANCET.

SIR,—It is now many years since I publicly recorded some inquiries and conclusions in reference to the precise nature and abortive treatment of the all-engrossing and extravagantly fatal disease that so actively pervades the columns of your invaluable Journal.

In the age we live in, so many able and distinguished individuals have contributed to the subject vast materials, formed both from patient investigations and extensive opportunities, that, did we not know the result of such erudite and nauseating researches, we might almost immortalise their labours. Unhappily, however, a mysterious veil has hitherto concealed the specific virus or morbid essence that constitutes what may be termed *tubercle*, as well as the nature of the germ, the prolific source from whence it springs, and in what manner the system becomes impregnated with its annihilating influence. As so much has been well written by scientific and competent authorities concerning all other circumstances in the history of this gigantic disease, I shall in this communication briefly consider,—

1st. The manner in which the constitution becomes affected.

2ndly. The origin of the poison.

A solution of these problems I believe to be all that remains unexplored in the wealthy mine, every other vein of which has been actively worked with little benefit, either to the profession or to the race dependant upon their intellectual acquirements. There are few physicians of experience who really cherish any very sanguine notions of the curability of consumption by medicinal means, and my own observation has long confirmed their accuracy. With all the watchfulness of eminent skill, with all the advantages of worldly means engaged in encountering the insidious enemy, how very few remain to tell of the fearful struggle that is undertaken with such a full share of hope's assurance.

It were in vain to question the many remedies that have been extolled as curative. Are any at present known to be really so, and to which is the merit due? I must confess, from an intimate knowledge of the several stages of this horrific disease, that no means, either medical or general, may be considered as such, and, in the experienced diction of Laennec, assert "that in the actual state of our knowledge we have no better means to oppose this disease than a sea voyage, and a residence on the sea-coast in a mild climate." Dr. Carswell "believes that tubercular matter, *ready formed*, exists in the blood, and asserts that it is frequently met with in the vessels of the spleen." Sir C. Scudamore expresses a similar opinion in the following question:—"Where is the tubercle first formed? In the blood itself, or in the exact part where it is found? In my view of the subject, tubercles of the lungs are the offspring of a morbid cause existing in the blood." Dr. Campbell in his elaborate work thus signifies, correspondingly, that "the pathological observations before delivered, lead to the conclusion that the blood becomes charged with particles derived from the materials of nutrition, which, being carried forward to the lungs, are capable in some organisations of passing through their extreme vessels, and hence producing no effect, but which, in other cases, are retained by the capillaries, and thus by gradual accumulation form masses apparently homogeneous, to which we supply conventionally the name of tubercle;" and Laennec considers "that, in order to make a direct attack on the disease, we ought, probably, to be able to correct an unknown alteration in the assimilation or nutrition; that is, an alteration in the state of the fluids of the body."

I have long felt the conviction, adopted by many erudite modern pathologists, that the stomach is the organ which *primarily issues* the tubercular virus, and from which it passes with the chyme and chyle into the circulation, and through this channel to the glandular system; and, like other animal poisons, as syphilis, cancer, hydrophobia, variola, it multiplies itself in a ratio with the peculiarity of constitution favouring its development, and is essentially assisted by the addition of fresh virus. It is also highly probable, as Sir C. Scudamore suggests, "that the tubercular poison may differ very materially in its degree of virulence, and that according to the intensity of the virus, so will be the period of life at which it may develop itself. If existing as an hereditary taint in the blood, this will be in early years, and slight exciting causes may prove sufficient to call forth the activity of the disease." He also observes, "every distinct animal poison produces morbid phenomena in the constitution peculiar to itself. It is not more difficult to believe that a tubercular poison in the blood should give rise to the formation of tubercles in different parts, than the small-pox virus should produce small-pox on the skin." Mr. Lane skilfully applies this in his admirable lectures. He says, "I conceive that *any specific virus* when applied to the living tissue in a fluid state, is instantly absorbed into the circulation. The quantity at first applied, I look upon as too small when mixed with the entire mass of the blood to produce any appreciable effect." "There are, however, two important circumstances

to be considered in reference to the accumulation or diminution of the poison in the system. The one is the power possessed by the organs of excretion to eliminate it from the blood; the other is, the power of the poison to reproduce itself. These two antagonising powers, I am disposed to admit, are in continual operation; when the one predominates, the poison is removed from the system; when the other gains the ascendancy, a fresh accession of symptoms supervenes." That the constitution may, in comparatively rare instances of phthisis, halt from the work of destruction, is unquestionable, the excreting organs acting with an undue impetus; but as this is so seldom evidenced, it cannot be prognosticated, as scarcely without exception it has hitherto been merely a temporary suppression of the latent disease, and not a reparation of what has been destroyed.

Sir C. Scudamore states, "that, sometimes, under very urgent circumstances of the disease, a temporary recovery takes place, and, after a longer or shorter interval, the symptoms recur, and proceed to a fatal termination. It shows, indeed, that a powerful constitutional cause is operating throughout the disease; and Dr. Campbell also observes, that "it is probable, from the very first derangement of the digestive organs, that there exists in the blood a portion, greater or less, of the matter which finally settles in the lungs, and it is quite certain that in nearly every example this last act takes place only to a limited extent, an extent so limited as to interfere but little with their functions; and there is great reason to believe that if the deposition was arrested at this period, those few and scattered tubercles which are then present, would either remain latent, or that the powers of the system would be sufficient to extrude them successfully in a softened state. It is, hence, the accumulative tendency displayed by these bodies which we have the greatest reason to dread."

From these definitive and well-considered opinions, the proposition naturally arises, How is it possible that the stomach can itself present such uniform manifestations of health as are demonstrable in the early stages of consumption, with regard to its appearance, structure, and function, when it is believed to be the source from whence so fatal a mischief is propagated? Surely it must *enter the stomach with the food*, and thus impregnate the vital fluid. I am perfectly satisfied that this solution is indisputable, although physiologists have long and boldly adopted an opinion, founded upon erroneous data, that the stomach, through its gastric secretion, is all powerful, and can resist the noxiousness of animal poisons; and, in fact, its antiseptic virtues are extolled to such an extent, that many believe that all putrescency of diet is magically sweetened, and, consequently, that all morbid effluvia, or viri, are speedily metamorphosed into the elements of health and vigour. That such a doctrine is promulgated by many physiological authorities, sceptics may satisfy themselves; and that such a theory is false and visionary I am prepared to assert, by referring to the well-known accumulative and poisonous influence of ergoted corn, for instance, and other vegetable products, which, of all other ingesta, are the most digestible; and, again, by the immense production of sulphuretted hydrogen which so constantly taints the circulating mass, consequent upon any gross, or impure, animal or herbaceous aliment. Dr. Marshall Hall, in the Gulstonian Lectures, aptly remarks, that "the baneful effects of venison and game kept until they are *high*, are little appreciated by the votaries of epicurism."

As to the origin of the poison.

Most modern writers of eminence express themselves ably upon the morbid influence that is engendered from nurse to infant through the mammary secretion, and in no disease so certainly as in scrofula or phthisis. No reason would so resolutely deter an accoucheur from recommending a wet nurse, as her being of a marked strumous diathesis, from the consciousness that her milk would, in an uncertain period, convey a poison to the constitution of the infant. Where no such precaution was advised or sought, the stomach would unavoidably be the sole medium of inoculation. Sir C. Scudamore observes, "In how great a degree may the infant at the breast imbibe health or disease according to the purity of the milk!"

However, by the acumen displayed at this era of our existence (excepting in very striking instances of phthisical inheritance, where, from tubercular disease, the parent has scarcely survived the birth of the infant), we find a vigorous enlargement of the frame; and its excretory apparatus, with the accustomed precautionary measures exercised during a frail childhood, in a great degree reduces any idiosyncrasy to this development, although Dr. Good states the proportion of deaths to be about five-twelfths, or 251 in 600, before fifteen years of age!

Thus, during the early stage of life, a fearful number annually perish from the three causes that give rise to this depopulating and hopeless disease, viz.:—

1st. Inheritance from parents of tubercular diathesis.

2nd. The mammary secretion.

3rd. The mammary secretion substituted, and more or less persevered with, through life. (Cow's milk.)

From these sources, almost exclusively, is attributable the astounding proportion of mortality in all climes and seasons, and I much question whether tubercular disease would scarcely prevail amongst the more cleanly and sufficiently fed and protected portion of the community, if *the latter* neg-

lected and all-sufficient cause was entirely put aside. From this also may be explained how the children of parents who present no evidence of a tubercular diathesis become frequently afflicted with consumption, for in most instances the strumous habit engendered by the parents, would be overcome by the vigour of infancy, provided no ready-formed virus was unintentionally administered in the early system of diet, and provided no other disease existed which would prevent the excretory organs from eliminating its hereditary influence, which, so far from assuming a neutral or latent position, would either advance more or less rapidly, as constitutional circumstances favoured its accumulative creation, or would be eradicated by the functional energies.

Comparative anatomy has of late years been assiduously cultivated, and undoubtedly with real benefit to physiological science, enlarging our views of nature's schemes and perfections, and, in fact, explaining much in the field of creation that might induce cavil and scepticism. Why has not comparative pathology equally progressed? Not because no ailments are transmitted to us from the brute tribes. Are not glanders and hydrophobia, of inveterate malignancy, peculiar in their origin to the horse and the dog? Whence comes vaccinia? It is not my present purpose to multiply instances; sufficient are stated to aid the inquiry in view, viz., that malignant diseases common to quadrupeds are communicable to the human species, and I lament to add, that concerning such diseases medical science is almost unacquainted. Hartrel d'Arborval perfectly corroborates this assertion in the following expressive sentence:—"Obscure and mysterious as they are in their causes, insidious and rapid in their progress, fearful and deceitful in their symptoms, deadly in their results, and speedily destroying numerous victims before their nature or even their existence is ascertained, they deserve profounder study than has yet been bestowed upon them." Is it not a melancholy truth, that veterinary medicine should have so utterly neglected the rich pastures of pathological research?

Mr. Youatt, the distinguished veterinary surgeon, in his valuable paper on Epizootic Diseases, remarks, "These epizootic influences are often observable in the lower animals, and the use of their diseased *milk* has been productive of malignant disease! The maladies of the quadruped often are productive of similar complaints in the human being, and occasionally there are periods in which they are common victims to the same pest." He likewise repeats many interesting extracts from the works of ancient theological, historical, poetical, and medical writers, which fully substantiate the correctness of this position.

Aristotle observed tubercle in the ox and the pig; and of the latter he says, "When the disease exists in a slight degree, the flesh is sweeter;" and in the "Historiæ Animalia" it is recorded "that all the milch cows in Paris, and, no doubt, elsewhere, become tuberculous after a certain period of confinement; and "that for some time after the disease has commenced, the quantity of milk is greater than before, and the flesh more esteemed by the unsuspecting epicure than that of the healthy animal!"

M. Costar has detailed to the Academy of Sciences at Paris, numerous experiments demonstrating how tubercles may be artificially produced by a cold, damp atmosphere and low diet, conditions existing with most cattle in large cities; and he justly adds, "it results from my researches that it is not a senseless expectation, that we may be enabled to correct the hereditary or acquired diathesis whence tubercular and scrofulous diseases arise. To withdraw individuals from the influence, or morbific agent, is, doubtless, the first indication."

Sir C. Scudamore also observes, that "wild animals and those domesticated shut up in small spaces, give a comparative example of the deleterious influence of confined air, and of tubercular disease as a consequence;" and Dr. Wilson states, that "phthisis is common in Great Britain, and all parts of the continent, where *milk* is freely used as an article of food, and is especially prevalent where an unhealthy state of the cow is observed."

As a proof that cold and moisture are in themselves insufficient causes, Sir A. Crichton asserts, that "consumption is infinitely greater in Great Britain and Ireland than in the northern parts of Russia, yet the climate is considerably colder and moister. The lungs chiefly suffer in these situations among those who adopt the European system of diet;" and Sir James Clark in pursuing the same inquiry adds, "that the Russians clothe themselves more warmly, and take more precaution against the severity of the climate, than the English; and their poorer classes are worse fed, black sourish rye bread and vegetables being their chief nourishment."

In all cities or large towns in this commercial age, the convenience for accommodating cows, and consequently of preserving a healthful state of their secretion, is almost unattended to; so long as they *milk well* they are retained, and on the supply becoming deficient they are speedily dismissed from service as unprofitable, and a fresh purchase is effected, which, in its turn, undergoes the same fate. Almost without exception the cow-sheds in the metropolis and in large towns are utterly unfit to preserve a salutary secretion of milk, being very confined in point of situation, and generally selected amongst the most dense and unwholesome of the populatory habitations,

where the impurity of the atmosphere, especially in the summer, when the animals are not driven into pastures (this short season affording the only liberty of muscular exercise permitted), and the damp chilling and foggy mists that pervade the interior of their ill-ventilated and comfortless stalls at other periods, compels me to assert, from extensive observation and inquiry into this momentous subject, that very few cows in this and other crowded locations are free from the horrific germ professionally termed tubercle, and that no secretion so readily and certainly conveys the virus to the human stomach. Two very remarkable processes, adopted by cow-keepers, that also materially assist in generating the disease in the cow, are, the practice of artificial feeding for milk, and the unnatural length of milking that is commonly resorted to. I am not prepared at this moment to state *positively* how long nature intended a cow to suckle, and partially suckle, its calf; but I am positive in the assertion, that all cows are freely milked a much longer time, and many for three or four times the period, they themselves in a state of nature would adopt. We are well assured of the probable consequence of a mother suckling her infant even longer than, or for twice, the natural term; and why should not the same wholesome law be applicable to the quadruped? Experience solves the problem most satisfactorily in the results obtained, and demonstrates that the same admirable principle that regulates our economy is equally distributed over the whole tribes in creation. There is scarcely a cowshed in any populous district that cannot furnish instances where external evidences exist of a scrofulous diathesis in the joints of the legs, more frequently the hind legs, either in the form of strumous enlargement, abscess, ulceration, or immedicable sinus from carious bone; and yet even these ill-treated and unfortunate animals are artificially stuffed to raise the fortune of their ignorant possessors, who alone rejoice in the full measure of the rich-flavoured secretion, which they unconsciously extol to the credulous victims in their walk.

In concluding this imperfect sketch of my investigations into the prevalence and origin of tubercular disease, I hope the views therein portrayed are pencilled with sufficient distinctness to awaken some more efficient but not more zealous inquirer to enlist in the same division of the service, so confident do I feel that no sanguine expectations can be cherished, with regard to the prospective discovery of any medical remedy likely to prove curative, whilst this infinite cause is countenanced.

As the destructive power of variolous infection has been wondrously diminished, after a long and annihilating reign, by the proposed efforts of one immortal leader, with the united aid of many distinguished followers, whose victory has not been achieved by combatting the morbid regnant, but by the subjugation of the virulent enemy before the hour of its attack, I conceive a similar principle to be the only safeguard we can hope to apply successfully. "To withdraw individuals from the influence, or morbific agent, is, doubtless, the first indication."—*M. Costar.* The germ that propagates the cachexia, I am satisfied is inherent in animals excluded from certain healthful privileges which nature in her wisdom ordained, and which a large proportion of the human family have the freedom to enjoy. Those who may at first sight ridicule the position I have assumed, may be advantageously reminded of the pernicious qualities contained in the milk of an unhealthy nurse, and a natural inference must arise that the milk of any diseased animal is equally capable of generating its disease. If this be granted, what an appalling spectre becomes unveiled, in the fact that many, very many, nay, most, of the milch cows from which populous localities are daily supplied, furnish the vehicle that may affect its millions! I am, Sir, your obedient servant,

JACOB HARE, M.D., Surgeon.

Pimlico, October, 1842.

EVIDENCE AND ARGUMENTS

IN PROOF OF THE EXISTENCE OF

A GENERAL LAW

OF

PERIODICITY IN THE PHENOMENA OF LIFE.

By THOMAS LAYCOCK, M.D.,

Physician to the York Dispensary, &c.

(Concluded from p. 129.)

HAVING thus rapidly traced a law of vital periodicity through natural history, physiology, pathology, and medical dogmas, both ancient and modern, I will now attempt to harmonise the preceding statements. I will afterwards show some of the applications of the law thus evolved to the principles and practice of medicine; and will point out some modes in which it may be further investigated, so as to place it upon positive and irrefragable data. In attempting to harmonise the physiological and pathological facts, we would observe that it is obvious there are "critical days" in health, days in which there is a marked change in the vital movements, whether that change be for better or worse, and that those days may be stated generally as the fourth, seventh, eleventh, fourteenth, twentieth (or twenty-first), and twenty-eighth. If we examine into the nature of the changes which occur at these periods in various animals, we find that they consist essentially in a movement inducing a

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less healthy state of the system at large. The period of moulting of all animals, whether insects, birds, or mammals, is a sickly period, a period in which there is greater liability to disease, and in which fatal disease often commences. It is well known that the menstrual period is of this character; and, although there is no manifest change of this kind to be observed in men generally, yet it has been often observed that the male sex are subject to periodic changes in the tone of the system, during which there is greater liability to disease, greater irritability of the system, and when, in fact, disease (in those predisposed) exhibits itself exclusively. Of this kind are numerous nervous affections; some so slight as scarcely to be observable, but some of a graver character, and therefore marking the periods distinctly. In these instances the periods harmonise with the law of limitation by weeks.

For the purpose of bringing these critical days of health into relation with the critical days of disease, as, for example, in fevers, it is necessary to refer to some facts in pathology. The fevers here mentioned originate from the entrance of a poison into the system, whether that poison consist in malaria, or in infectious or contagious matter. In most cases the poison, after it enters the system, remains dormant, and the time during which it remains dormant is termed the latent period. The length of this period depends in many diseases upon the degree of concentration of the poison, especially in malarious fevers, just as the symptoms of arsenic may be developed instantly by a large dose, or at a distant period by repeated small doses. The length may also depend, and no doubt does depend, in other cases in the amount of power in the system to resist the effects of the poison. If the system be full-toned, the latent period will be longer in one individual than in another whose system is under tone, or below the par of health, supposing the degree of concentration of the poison equal in both cases. But any depressing cause, sufficiently powerful, will bring the system below par, and the symptoms denoting the presence of the poison will immediately display themselves. According to my previous statements, depression of the system takes place at the critical days of health, and consequently an exanthem, or other fever depending on a poison, is more likely to appear on these days than on any other; and by parity of reasoning the symptoms are most likely to be violent (when the disease has once broken out), or, in other words, a paroxysm to appear, on the same days; consequently, the critical days of health and the critical days of the fever will be identical.

And as a confirmation of these views, it may be observed (as *à priori* might be inferred) that the latent period of fevers rarely extends beyond twenty-eight days. If we take menstruation as a type of the critical days, and suppose that a movement takes place every seven days, gradually becoming more intense at each up to the fourth week, we have four days, at least, in every month in which the peculiar symptoms of the poison, whether malarious, exanthematous, or contagious, may exhibit themselves; probably the number is greater; but if one or two of the days be passed over without an outburst of febrile action, it is scarcely possible that the third or fourth will. And in strict accordance with these theoretical inferences we find most writers stating the latent period of febrific poisons. Dr. Gregory remarks, that the contagion of small-pox has a latent period of from ten to fourteen days; of measles about eight days, varying, however, from ten to fourteen. Dr. Craigie says, the latent period of small-pox is never shorter than five days, and it may be extended to seventeen or twenty-three days. According to Dr. Johnson the medium period for tropical fevers is from twelve to fourteen days; other writers say from fifteen to twenty-one, and others from two to eight. The latent period of some animal poisons is more extended, as of the hydrophobic virus and of yaws. But even these are regulated by weeks. Mr. Marshall has put on record a case of hydrophobia in which this is manifest, and which from the exactness of the dates and the accompanying circumstances is worthy notice. A young lady, aged fifteen, residing in Ceylon, was bitten by a spaniel on the 2nd of May; on the 9th (seven days after) she menstruated, and again in five weeks, on the 14th of June. On the 15th of June symptoms of hydrophobia came on: she died on the 16th.

Another inference which may be deduced from a consideration of this general law is, that if a whole population be exposed at the same time to a febrific poison, those susceptible of its action will experience the consequent fever within twenty-eight days. The genuine epidemics, namely, those in which the poison is carried in the atmosphere, are the most likely to exhibit this general fact. Now this has been often stated respecting the influenza; and I find from some casual researches that the same has been observed to take place where the Asiatic cholera has prevailed. Thus Dr. Anderson, an early writer on the disease, as it appeared in India, observes, "its disposition to terminate within the period of a month has been manifested in almost every situation in which it has appeared."

Other curious inferences might be mentioned, and their accordance with inexplicable facts exhibited; but I fear I have already entered too much into details. It will be seen that as yet I have not harmonised the quotidian and tertian remittents and intermittents with the general law, but I must

let this part of the subject stand over, as it is of sufficient importance to occupy a separate communication. I would only observe, that the warm dispute on the contagiousness or non-contagionsness of certain fevers, and on the liability or non-liability to a second attack, may perhaps be somewhat narrowed by observations made in relation with this general law. With a single exception, the exanthemata, an attack of which occurs only once in a person's lifetime, have a *quartan type;* and it is at least a curious coincidence, that a person who has had a *quartan ague* is not liable to a second attack. Both Sydenham and Van Swieten expressly state and insist upon this fact; and Dr. Wallis, in his note upon the passage in Sydenham's works, observes, that the circumstance is well known in Essex. It has been strongly asserted of the plague, cholera, yellow fever, Gibraltar and Andalusian fever, &c., that they attack a person only once in his lifetime, and perhaps as strongly denied. It is possible that both parties are right. As all these fevers are connected in their origin, at least, with malaria, it may be, that the amount of protection afforded by the attack has depended upon the type which the fever assumed; for so far from one attack of a quotidian or tertian ague affording immunity from a second, it induces rather a proclivity to relapse. But as a tertian ague will become quartan, so also a tertian malignant fever may become quartan; and those people who, having the fever towards the cessation of the epidemic, experience the quartan form, may be secured from a second attack, which otherwise they would not have been had they suffered from the tertian form. It is also asserted that an exanthematous fever does not become contagious until after two revolutions, or, in other words, before the fourth day; a fact well worthy remembrance by the non-contagionists. There has been much difference of opinion as to the most efficient mode of treating fevers, which a consideration of this law may elucidate. From the preceding statements it may be readily inferred, that fevers, like gout, will get well of themselves. If a physician were to give simple remedies to his fever patients on the sixth or thirteenth day, he would probably find the amendment as astonishing on the seventh or fourteenth, as if he had administered the most vaunted febrifuges. Nor does this observation apply to febrile affections only; it holds good with the greater number of idiopathic diseases, as they are termed. One might almost venture to assert that the *scientific* observation and treatment of disease are impossible, without a knowledge of the mysterious revolutions continually taking place in the system.

The facts drawn from natural history, upon which the induction is founded, that there is a law of the kind I have discussed, governing all the vital changes of all animals, are perhaps the more satisfactory, because collected from a variety of sources, and ascertained by a multitude of observers whom the existence of such a law seems to have been utterly unknown. But a series of more exact observations than naturalists have yet made, and conducted systematically, and with reference to the general principle, is a great *desideratum*. Such a series would unquestionably lead to extraordinary and unexpected results; for the knowledge of the simple fact that such a law existed, would lead naturalists to more numerous and correct observations; and the more numerous and correct the observations, the more important and extensive would be the deductions. The entomologist has the widest scope for research, but his inquiries should not be limited to the points in the natural history of insects to which I have alluded. The difference in the length of the intervals, caused by the difference of sex, is worthy notice; so also the duration of the imago state, and the number of days that state may be lengthened by preventing the intercourse of the sexes. Some insects are imperfect when hatched, as the arachnida and crustacea, but their subsequent development advances at regular intervals. The common *cyclops*, for example, is nearly spherical at first, and provided with no more than two antennæ and four extremely short feet. It continues in this state until the fourteenth day, when a small projection appears on the hinder part of the body; on the twenty-second day it acquires a third pair of extremities, and on the twenty-eighth day it changes the tegumentary covering of its body. In making observations on insects, the modifications effected by temperature, domestication, presence or absence of light, change of food, &c., should be carefully noted.

Reptiles and fishes present a much less extensive field for inquiry than do insects. The time required to hatch the ova, and the intervals between each exuviation in serpents, would be the most easy and most important to ascertain.

In birds, not only should the period of incubation be noted, but also the periods of nidification, pairing, and egg-laying. The gold-finch builds its nest in three days, and it is left unoccupied for four, the first egg not being laid until the seventh day from the beginning. Birds of the goose and duck kind, in the wild state, lay eggs at periods having tertian intervals; that is to say, they lay seven eggs in fourteen days, at the rate of one every other day. The time from the commencement of pairing of the *vultur aura* to the commencement of incubation is two weeks. These are examples of the kind of observations required.

The *exact* time occupied in utero-gestation can scarcely ever be made out, as we cannot ascertain to a day when conception

takes place, or utero-gestation ends, there being so many causes in operation to accelerate or delay them, unless, indeed, further investigations shall supply us with a formula by which observations may be corrected. It would be useful to ascertain as near as possible the period during which male animals are rutting, and females at heat; and the length of the interval between each period. Moulting, casting of the coat, and shedding of the teeth, are also processes which might be usefully observed.

I have purposely deferred any distinct reference to the quotidian and tertian movements in animals, the preceding observations having reference principally to the quartan intervals. The observations on the quotidian and tertian intervals should be made with a reference to *the hour of the day* at which they occur, that they may be compared with pathological and meteorological observations. A few remarks may be permitted to show the direction which the inquiry should take to be practically useful; that is to say, useful in preventing and curing disease. All paroxysmal diseases appear at some particular hour in the four-and-twenty. Gout and all arthritic, and many purely nervous, affections, attack at two o'clock, a.m.; cholera usually just before daybreak. The paroxysm of a quotidian ague comes on at four or five o'clock, a.m.; of a quartan, at four or five, p.m.; of a tertian, at noon, or between noon and three o'clock, p.m. A quotidian comes on when the consumption of oxygen in respiration is at its minimum; a tertian when it is at its maximum; a quartan when the consumption of oxygen is equidistant between the maximum and minimum. Again, a quotidian paroxysm appears when the magnetic needle attains its intermediate minimum deviation east, and terminates at the hour of maximum deviation west; a tertian paroxysm commences about the time of maximum deviation west, and continues until the needle reaches its minimum deviation west. A quartan comes on at an hour intermediate between the minimum and maximum variation west, and ends when the needle attains to its intermediate maximum deviation east.

The variations of the barometer have also a manifest relation to the hours at which the paroxysms of agues commence and end. It is at its minimum variation when the fits of quotidian and quartan agues begin, at its maximum when they end.

Changes take place in lower animals with equal regularity. The *ephemeræ* which issue from the banks of the Seine, described by Reaumur, appear at no other time than between the hours of eight and ten in the evening (the magnetic needle attains its mean minimum deviation west at 8h. 25min. in May, June, and July); and neither cold nor rain retard their exclusion from the pupa. The silkworm moth, and the hawk-moth of the evening primrose (*sphinx œnotheræ*), constantly break forth from the pupa at sunrise, the intermediate minimum variation east of the magnetic needle, occurring about four o'clock, a.m. The hawk-moth of the lime (*smerinthus tiliæ*) appear as certainly at noon, the time of maximum variation west, being 1h. 29min., p.m. Schröfter states, that of sixteen specimens of the death's-head hawk-moth (*sphinx atropos*) which he bred, every one was disclosed between four and seven o'clock in the afternoon, the hour of minimum variation, east, being four or five o'clock.

These are only a few of the facts which might be pressed upon the notice of the naturalist and meteorologist. If they are only curious coincidences, then the whole animal creation displays little else than curious coincidences, so far as vital movements are connected with the measure of time. But I have little hesitation in saying that it only requires a series of combined observations in natural history, meteorology, and medicine, to bring these coincidences under one general expression, and show that they necessarily follow as effects of general causes. It is certain that the diurnal variations in the electric tension of the atmosphere in the barometer, and in the magnetic needle, are the results of the combined influence of the earth, and sun, and moon. The variations of the barometer indicate the existence of atmospheric tides; and it is highly probable that, like those of the ocean, they are dependent on the moon. The question of lunar influence has generally been considered rather a subject for ridicule than philosophical inquiry; yet having accumulated numerous facts bearing upon the question, I cannot help stating my conviction that the moon has considerable influence on organised matter, not directly by her attractive powers, as some absurdly suppose, but indirectly, by inducing atmospheric and meteorological changes; and I will venture to assert that this opinion can be established as well by theory as by facts.

The subject is quite worthy of scientific investigation; indeed, its consideration cannot be omitted in an inquiry into the law or laws by which periodic vital movements are regulated; but I would venture to observe that attention has been too exclusively given to the moon's changes, and too little notice taken of her influence when at apogee or perigee, at the solstices or equinoxes. Yet her varying relations to our own planet, as she revolves round it, are certainly more important to us than her relations to the sun; for it is her gravitating power we have to consider, and not her light. Besides, the revolution round the earth is performed in twenty-eight days nearly, a number remarkably coincident with that observed in vital revolutions, and a coincidence hardly to be considered as accidental; while a lunation

occupies about twenty-nine days and a half.

The pathology of epizootic diseases might furnish many illustrations of the periodicity of vital changes, not more novel than important. The scientific veterinary surgeon would render a great service, both to zootic medicine and to humanity, by investigating the pathological changes in lower animals, in their relations to a measure of time.

The medical practitioner might make observations on the periodic movements in disease, especially in acute diseases, by taking a little trouble to ascertain the day (*and hour*) on which the disease commenced; and this would really be no difficult task after a little practice. In many cases where this point could not be ascertained, it would be practicable to count back by weeks to some hæmorrhage or diarrhœa, &c., or even to the time of birth. The relations of critical days to the menstrual period should be especially noted. Crises may be observed more obviously in country people than in citizens. A good way of keeping the dates of cases is by placing the day of the month above a horizontal line, and the day of the disease below it; as for example,—

$$\textit{Die Junii}\ \frac{4\text{to}}{2}, \frac{5\text{to}}{3},$$

the 4th of June being the second day of the disease, the 5th, the third day, &c. The day of death bears some relation to the day of birth, and this should be noted. Thus a person aged twenty-eight on the 15th of June will die on the 18th of May, or 14th of July, rather than on the 14th of May, or 18th of July. When a whole family is attacked by an epidemic, notice should be taken of the dates of attack and termination in each case, as, theoretically and really, the different members of the same family will be attacked at once, or at intervals of time analogous to the intervals between the critical days; as four, seven, eleven, fourteen days, &c. The position of the moon, and the time of the day at which changes take place, should be recorded; and in making observations having reference to the seasons, it should be remembered that for pathological purposes there are at least six seasons into which the year should be divided; the division being made according to the prevailing winds, weight of rain, hygrometric and electric tension, &c.; in short, *that there are lunar as well as solar seasons.* But if the usual division into *four* seasons be insisted on, then the middle of each should correspond to the equinoxes and solstices; that is to say, winter should include the second week in November and the first of February; spring from the end of the first week in February to the end of the first in May; summer should extend from the second week of May to the first of August inclusive; and autumn comprise the remaining portion of the year, namely, from the end of the first week in August to the end of the first week in November.

In conclusion, I would state that it will give me pleasure to afford any explanation or assistance in my power to those naturalists and practitioners who may be inclined to carry out the views I have advocated; and, as an inducement to make the attempt, I would venture to state that in carrying out these views they would assist in establishing the most important of all sciences, because the laws evolved would constitute a science (the science of VITAL PROLEPTICS), having for its object *to foretell social and individual suffering*, as the astronomer foretells the appearances of a comet or the occurrence of an eclipse, and thus afford mankind an opportunity, at least of ameliorating or preventing the coming evil.

York, June 19, 1842.

NOTES AND MEMORANDA

ON THE

PROPERTIES AND USES OF PLANTS,

COLLECTED FROM THE

HERBARIUM OF THE MEDICAL OFFICERS OF THE ARMY,

Kept at the Army Medical Museum, Fort Pitt, Chatham.

By DANIEL COOPER, Esq.,

Assistant-Surgeon to the 17th Lancers; Late Lecturer on Botany at the Theatre of Anatomy and Medicine, Webb-street, &c.

ON looking through, in the course of arrangement, the large collection of plants from all countries, exhibiting the industry and perseverance of several medical officers of her Majesty's army, my attention has occasionally been directed to various notes and memoranda accompanying the specimens. As it is to be presumed that these were appended either as the result of the experience of the collector, or from information gleaned from other medical men at the same station, or, doubtless, even, in many instances, from the natives themselves, I do not for a moment hesitate laying them before the scientific public, without at the same time taking any credit to myself for collecting the materials, nor any save that of, in most instances, verifying the names of the species. Unfortunately, however, in the majority of the cases, the collector's name, and that of the observer appending his remarks, are not known, this confusion arising from the circumstance of the herbarium of late years not having been carefully attended to. When it is possible to obtain either the name of the one or the other, due credit shall be given to each. With the best intentions in view, I lose no time placing on record some

interesting notes on the properties and uses of many plants, whose virtues are not, so far as I have been able to ascertain, recorded: at the same time feeling assured, that in the existing state of materia medica and therapeutics, every new fact must be looked upon as a boon conferred on those sciences.

Cavalry Barracks, Leeds,
October, 1842.

*** Most of the specimens to which the following notes are appended were collected in Ceylon, and presented by Dr. Stewart, for many years Deputy-Inspector of Army Hospitals at that station:—

Trianthema monogynia, Linn. Native name, Sáranei.
Carminative. Given in the form of powder, as well as decoction, and electuary.

Spermacoce scabra. Native name, Natteichchoon.
The root is employed with other medicines in the composition of oils for bubo and fistula. The whole plant is also used in the form of powder in itches, leprosy, &c.

Mimosa amara, Roxb. Native name, Usila maram.
Furnishes excellent timber for furniture. The leaves are used to rub off oil from the head.

Phyllanthus niruri. Native name, Keelkáinelli.
Cooling. The juice is given to small-pock patients, as well as to children who have green-coloured stools.

Pharnaceum cerviana, Linn. Native name, Patpadágam.
Given in the form of decoction in intermittents. It is generally combined with other medicines.

Amaranthus polystachyus, Linn. Native name, Kuppykeerai.
Edible.

Ficus acetosa, nov. spec. Native name, Aattulah.
The bark is used as a wash in toothach.

Acalypha Indica, Linn. Native name, Kuppymainy.
The juice is used in the form of liniment with other medicines in snake-bite. It is also mixed with other medicines in decoction for rheumatism.

Eclipta erecta. Native name, Karippán.
Cooling. Used in oils to be applied to the head. It also cures itches.

Cleome pentaphylla. Native name, Taiyirválei.
Heating. The juice is used as a vehicle when pills are given to raise the natural heat of the body in coma, as also to check indigestion.

Amaranthus gangeticus. Native name, Sirukeerei.
Edible. Also used in oils to cool the body.

Aristolochia Indica, Linn. Native name, Peru-marundoo-kodi.
Heating. Carminative and stomachic. Given in the form of infusion and powder.

Scopolia aculeata, Willd. Native name, Mut-Kandei.
Externally applied to wounds, in combination with other medicines.

Exacum hyssopifolium, Linn. Native name, Vellarugoo.
Used in ascites, tympanitis. Given with other medicines in the form of ghee, or electuary.

Clarissa spinarum, Rumph. Native name, Klá.
Used in the composition of the oil which is squirted into the sinus of abscesses.

Borago Indica. Native name, Kavil Tumbei.
Heating.

Zizyphus trinevius, nov. sp. Native name, Karukkuvátchi.
The bark is used in oil for cutaneous eruptions.

Salvadora Persica, Vahl. Native name, Uva.
Used in colic. Given in the form of a decoction with other medicines.

Strychnos potatorum, Linn. Native name, Taita.
The seeds are used in electuary, or ghee, in pulmonary affections, as well as venereal diseases.

Asclepias vometina, Linn. Native name, Perunkurinja.
The leaves are both dressed and eaten, and used in medicine. The root is given in the form of powder, in combination with other medicines, as a cure for rheumatism.

Webera tetrandra, Willd. Native name, Kárei.
The leaves and fruits are esculent.

Gmelina Asiatica, Linn. Native name, Nilakkunril.
The leaves and roots are used in the composition of oil for the swelling about the neck called Kanda-malai (scrofula).

Asparagus sarmentosus, Willd. Native name, Tannyvittan.
The root is considered very refrigerant, and is chiefly given as a diuretic in anasarca.

Tragia involucrata, Linn. Native name, Kanjori.
The root is used medicinally. It forms one of the principal ingredients in decoctions for fever, attended with great heat of surface and thirst.

Morinda umbellata, Linn. Native name, Manja-Nunah.
The wood is used for making sandals. The leaves are roasted with Margoso oil, and applied to chronic ulcers to remove the slough.

Ruellia sp——? Native name, Paal, cháty.
The leaves are esculent.

Monetia sp——? Native name, Issangu.

An infusion of the leaves and roots is recommended as a sovereign cure for venereal complaints. The root is also applied to chronic ulcers.

Convolvulus tridentatus, Linn. Native name, Kudirei-váli.

The root is given in the form of decoction with other medicines in intermittent fevers. Not much used.

Gloriosa superba. Native name, Kattagei-Poo.

The bulbous root of this plant is ground, and applied to the navel, when a woman suffers from a difficult labour.

Cleome viscosa. Native name, Naivaili.

The leaves are used in combination with other medicines, in the form of a decoction, for the cure of fever, attended with vomiting.

Cardiospermum halicacabub, Linn. Native name, Mudukkottan.

This is given to pregnant women, in the form of a curry, by boiling it with some rice, garlic, the flowers of the muruuga tree (hyperanthera?) and uluwa seeds, and is supposed to remove flatulency.

Salicornia herbacea, Linn. Native name, Káttumiri.

Used only for old sores or ulcers, pounded together with other herbs.

Periploca Indica, Linn. Native name, Nànnári.

Used in the form of a decoction, with other medicines, in intermittent fever.

Justicia procumbens, Linn. Native name, Kodagasálei.

This is considered a sovereign medicine for cut wounds. The leaves are pounded and applied to the wound, and kept constantly moist.

Ehretia buxifolia, Willd. Native name, Kurinavitchi.

An astringent, given with other medicines in diarrhœa.

Boerhaavia diffusa, Linn. Native name, Mookkaratta-Keerei.

Edible. Also used for fomentation with other medicines, in swelling of the body supervening fevers.

Cassia auriculata, Linn. Native name, Avarei.

Employed in the form of powder in gonorrhœa, and other venereal affections. The gum is given in diabetes.

Cassia tora, Linn. Native name, Pandi-Tagarei.

Used for venereal affections, in the form of powder, with other medicines.

Cassia]*senna*, Wood. Native name, Nilaváhei.

The leaves are used as a laxative, and the roots (reduced to powder) are given with some soft sugar in dyspepsia.

Cassia tagera, Linn. Native name, Tagarei.

The leaves are applied to itches, and in drawing away matter from a broken abscess. In the latter use the leaves are dipped in urine, and oiled.

Cannabis sativa, Willd. Native name, Ganjah.

The juice of the leaves is used as a vehicle for a pill, which the native doctors give to check discharges, especially dysentery. It is also combined with a certain electuary, to strengthen the body and provoke love.

Calyptranthus caryphyllifolia, Willd. Native name, Peru Návei.

Fruit is edible. The bark is an astringent, and given in dysentery.

Cytisus cajan, Linn. Native name, Tuvarei.

Fruit edible.

Illecebrum sesile, Rhud. Native name, Ponnánkáni.

Cooling. It is both made into curry as well as combined with other medicines, in oils, to cool the body.

Justicia adhatoda. Native name, Adátódei.

Properties.—Expectorant. The juice of the leaves is employed in the form of an electuary, to relieve oppression of the chest, accompanied with expectoration.

Bryonia scabra, Linn. Native name, Musmosukei.

The juice of the leaves, with goat's milk, is given as a cure for jaundice. It is also applied to the head in irritation of the eye.

Aspalathus Indica, Linn. Native name, Sivanár-Vaimbu.

Used both in the form of decoction and powders in venereal affections.

Gisekia pharnacioides, Linn. Native name, Marralikkeerei.

Used in the form of a decoction, in combination with other drugs, to check dry bellyach.

Phyllanthus rhamnoides, B. Native name, Neerppoolah.

The root is employed in the form of a decoction, with other medicines, in jaundice.

Achyanthus sp——? Native name, Nayuruivi.

The seeds are employed in the form of an electuary, with other medicines, in *carcuy-carappan*, or eruptions on children. The root is used in the form of a decoction in the same complaint.

Phyllanthus emblica, Linn. Native name, Nelli.

The fruit is very cooling, and given to check bilious disorders.

Hydrocotyle Asiatica, Linn. Native name, Válarei.

Used as a gargle for sore mouth. It is also employed, in combination with other medicines, either in the form of a powder or decoction, in gonorrhœa, and other venereal affections.

Pavetta Indica, Linn. Native name, Pávettei.

The juice being boiled to the consistency of syrup, is applied externally for pains arising from blows, &c.

Evolvulus alsinoides, Linn. Native name, Vishna Kránti.

Refrigerant. An infusion of the whole plant, in combination with the leaves of the tamarind and Monetia, cumin seeds, and onion, is given to small-pock patients, as soon as the disease makes its appearance.

Cratæva tapia, Linn. Native name, Mávilengai.

Very heating. The bark and leaves are used in fomentation, to check clammy perspiration, and revive the natural heat of the body in coma (janni). They also form the chief ingredients in ointments for the same purpose.

Physalis flexuosa, Linn. Native name, Amukkra.

The root is used in the form of powder, in dyspepsia and venereal affections. Sometimes it is also given in the form of a decoction, with other medicines.

Indigofera anil, Linn. Native name, Avuri.

Used, in combination with other medicines as a liniment, to rub on the bites of snakes.

N. B.—By applying the juice of the leaves I have often found it give relief in earach attended with swelling.

Solanum Jacquini. Native name, Kandang-Kattari.

Used in the form of electuary as well as decoction, with other medicines, in pulmonary affections. Expectorant.

Jasminum sp——? Native name, Oosi-Malligai.

This plant is employed, in combination with other medicines, in the form of pills, for the cure of snake-bite.

Convolvulus terpethum, Linn. Native name, Sivadei.

The root is employed as a purgative, in the form of a *sooranam*, or powder. It is also supposed to remove worms in the stomach.

Evolvulus emarginata. Native name, Kodiya-Koondel.

This is employed, in combination with other medicines, in the form of an oil, to make the hair of the head grow.

Euphorbia hypericifolia. Native name, Chitrapálair.

This is applied to cut wounds, with some turmeric, common salt, and the bark of the *Euphorbia Tericalli*, pounded together.

Gardenia dumetorum, Linn. Native name, Marukkárei.

The root of this tree, in conjunction with dried ginger, the bark of the *Terminalia alata* and *Mimosa ferruginea*, the root of *Asclepias gigantea*, and the bark of the *Banian* and *Cassia auriculata*, is used in the form of a wash for toothach. The juice of the pulp, mixed with sulphate of copper, is squirted into the nostrils for quinsey.

Capsicum frutescens, Linn. Native name, Kotchi.

The leaves are pounded, and applied to cut wounds, to prevent inflammation: they should be kept constantly wet. The fruits called *chillies*, are used in curries.

Populi folia. Native name, Vattu Tutti.

The roots are used, in the form of a decoction, for cooling the body. The leaves are applied as poultices on boils.

Calophyllum longifolium, Rot. Native name, Punnei.

The nuts afford an oil much used in Saffna (?) as a substitute for cocoa-nut oil. The root is carminative. The wood is used for out-riggers of boats.

Cyperus sp——? Native name, Korei Pulloo.

The roots are employed, in the form of decoction, with other medicines, for intermittent fevers.

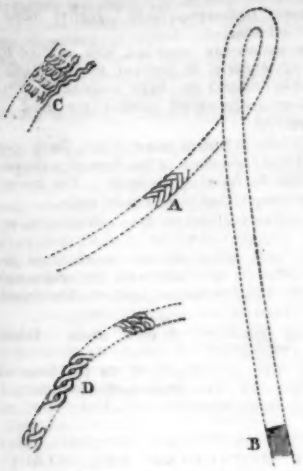
NOTE REGARDING THE STRUCTURE OF MUSCLE.

By Martin Barry, M.D., F.R.SS. L. & E.

In Part I. of the "Philosophical Transactions" for the present year (p. 99), I mentioned having often seen a muscular *fibril* becoming a *fasciculus;* and gave delineations of fibrils undergoing this change. I happen to have just made a preparation in which the transition is remarkably well seen, and have sketched it (chiefly in outline) in the accompanying figure. At A, the young fasciculus still exhibits the double spiral; while at B it is so far advanced as to present the usual transverse striæ. Here the striæ are too minute for examination. The preparation is from the muscle of a fish. In the fasciculus C (from the turtle) the transverse striæ are obviously produced by the windings of spiral threads. D represents an enlarged fibril or young fasciculus, varying in its appearance at different parts from being twisted on itself. The preparations themselves are in a state in which they may be viewed by my friends.

It is a striking fact, that the conversion of the fibril into the fasciculus is more frequently met with in the ever-acting heart, than in any other part that I have examined. The heart of the turtle is that which I usually employ and recommend. The muscle may be preserved in very dilute spirit, a drop of which is preferable to water as a medium for the examination. It will be found advantageous to freeze the muscle, as then it is possible, by means of a razor drawn in the direction of the fibres, to slice off an exceedingly thin lamina, which being thawed, a

narrow strip of it should be detached and teased out with needles.



In the "Philosophical Transactions" above referred to (fig. 42), I also delineated nuclei situated within what had been fibrils or double spirals. Such nuclei give origin to new fibrils or double spirals. For this purpose the nuclei undergo division and subdivision, and arrange themselves at distances curiously equal. Even the smallest fibrils are reproduced by means of nuclei, which being here extremely small and very near together, they present the appearance of a row of minute particles separated by spaces almost equally minute. These rows of bead-like particles (nuclei)—the mere elements of spirals—seem to be what some observers have supposed to represent the structure of the *formed* fibril.

OBSTRUCTION OF CATHETERS BY COAGULATED BLOOD.

To the Editor of THE LANCET.

SIR,—Allow me to transmit for publication in your valuable periodical the following hints upon the subject of operating in cases of retention of urine. I should not intrude upon your notice my contrivance, but from a conviction that such an improvement in the ordinary mode of treatment is not generally known. I had been a careful reader of THE LANCET from its earliest circulation, and I have no recollection of having seen in its pages, or in any other medical work, a certain and efficient remedy for the painful difficulty in question.

If my surmise be true, that no suggestions of the kind have been published, it will be a cause of regret that I had not years ago sent to the public press the following certain remedy for the stoppage of the catheter by coagulated blood, as thereby the sufferings of many who have been troubled with the painful retention of urine, might have been shortened:—

In retention of urine from enlarged prostate gland, I have often found it extremely difficult to evacuate the bladder from coagula plugging the apertures of the catheter. I had the pleasure of reading a letter from Francis J. Bush, Esq., inserted in your pages of 1839, recommending a piece of solder to be fixed on the end of the wire, and which he has found to "dislodge any matter which might impede the flow of the urine." I was delighted with the suggestion at first; but there is the risk of the piece of solder getting into the bladder, as well as the uncertainty of adapting it to the openings. If it would not penetrate the holes of the instrument, it could not open them out; and if small enough to do that, the accident alluded to, in nine out of ten cases, might occur. For, what can possibly be more vexatious, after the difficulty often experienced in passing the catheter over an enlarged prostate, fairly into the bladder, than to *find no urine pass;* the wire is used without success, the catheter is withdrawn, the clots of blood removed, and the instrument returned, and again with the same result.

This difficulty is, I apprehend, now completely surmounted. I requested Messrs. Weiss and Son to make me a catheter, between the size of Cooper's prostate catheter and the one in common use, *to fit on the cross pipe of the stomach-pump.* I fix the metal stand on the bottom pipe, the cross pipe being put into the end of the catheter projecting from the urethra. The metal stand is immersed in warm water, held by an assistant in a basin; the syringe is filled with the water, and a stream made to pass along the catheter into the bladder. It will be immediately seen how perfectly and instantly the remedy removes the obstacle to the urine finding its way along the tube. Any foreign body stopping up the openings of the catheter can by these means be now readily removed, and the patient speedily relieved. I have no doubt that Mr. Weiss would contrive a smaller syringe, with cross pipes, that would answer the same purpose as the stomach-pump, and that might be fitted in a case with the catheter, so as to be very convenient for the pocket. I have the honour to be, Sir, your obedient humble servant,

T. B. DENTON.

Hornsea, Hull, Oct. 20, 1842.

TREATMENT OF THE EYE AND LYMPHATIC GLANDS.

ACTION OF BISULPHURET OF CARBON, &c.

To the Editor of THE LANCET.

SIR,—In October, 1841, I gave an account in your valuable Journal of the action of the vapour of hydrocyanic acid upon diseases of the eye. Since that period I have been engaged in investigating the action of various other bodies on the same organ, and under the same form.

One reason why I did not rest satisfied with the great effects produced by the hydrocyanic acid was, that its action, like that of all other medicines, decreased in power by continued application, thereby rendering it necessary to have occasional recourse to other medicines, in order to ensure a more speedy recovery. Another reason was, the reluctance of many individuals to submit the eye to the action of so potent a medicine.

The first medicines to which I shall refer, and which I have employed with some success, are the *chlorocyanic acid* and *sulphurretted chyazic acid*.

The plan I pursue is that of putting a drachm of one of the medicines into a bottle (containing a small piece of sponge) of about two-ounce size, having a mouth precisely fitted to the eye, with a ground-glass stopper. The action of these medicines is very different from that of hydrocyanic acid, in so far as they both stimulate the eye and produce much greater warmth and irritation, with less dilatation of the pupil. Few, however, can bear the chlorocyanic acid to be applied longer to the eye than half a minute, though in a minute after its application all irritation is removed, and the eye feels perfectly at ease.

The next medicine which I have employed in the form of vapour was the *chloruret of iodine*. This medicine produces very little warmth or uneasiness to the eye, if continued for the space of two minutes or upwards, but a sensation of irritation, accompanied by a flow of tears, takes place on its removal. It contracts the pupil, and in no case have I seen it dilate it. Its vapour rises very readily, and does not leave the yellow, disagreeable colouring on the skin, that is produced by the vapour of *iodine* when uncombined, which is a great drawback in the use of iodine in diseases of the eye.

The last medicine which I have employed is the *bisulphuret of carbon*, which is so volatile that the application of it to the eye, when the bottle is held in a warm hand for a few seconds, is as much as can be borne, in consequence of the intense pricking heat and flow of tears which it occasions. Owing to this fact, I generally use it by causing the patient to shut the eyelid during its application, which can then be continued, for a minute or two, with the same beneficial effect upon the eye, and without inconvenience to the patient. It generally contracts the pupil, and very seldom dilates it.

I used to employ iodine by putting it into the same bottles, and immersing it in hot water, and, in its state of vapour, applying it to the eye, but I now find it answers much better when dissolved in the bisulphuret of carbon.

It is my intention shortly to give a full account of the action of these medicines upon the various forms of disease to which the eye is subject, and also what particular disease each medicine is best calculated to remove. At the same time I shall state such instances of failure as have occurred in my experience, in order that a just estimate may be formed of the value and importance of each medicine.

It may not be out of place here to state, that I have employed with great success the bisulphuret of carbon to enlarged indurated lymphatic glands. In the first instance, I rubbed equal quantities of *bisulphuret of carbon* and *alcohol* upon the parts affected, but without any effect upon the glands. But as its effects were so great when its vapour was confined to the eye, I was led to apply it in the form of vapour, and by means of glass bottles, similar to those I have described. By this means I excluded the action of the medicine from the external air, and thereby prevented its speedy evaporation. When it had been applied about one minute the patient felt the part very cold, but immediately after a gradual heat, accompanied with great prickling, the heat increasing the longer the medicine was kept in contact with the part, until it could no longer be endured.

On removing the glass the part was red to an extent two or three times greater than the part enclosed. In a few days the change in the size of the glands was very great, and by its daily application a complete and speedy removal of the disease was effected. I also find that its action upon diseased glands is more decided, if the surface of the skin is well moistened with water previous to the application of the bottle to the part. The water, in fact, not only prevents the escape of the vapour between the glass and the skin, but assists the imbibition of the *carbon;* a point of the highest importance, inasmuch as all its action on the part depends upon the exclusion of the atmosphere from the vapour. I may here observe, that these applications occasion no injury whatever to the skin.

I have also found the *bisulphuret of carbon* and the *chlorocyanic acid* valuable medicines in the removal of deafness, depending upon a want of nervous energy and deficiency of wax. The mode of its application is substantially the same as that which I employ in diseases of the eye, with this difference only,

that the bottle is formed with a small neck and stopper, adapted to the size of the orifice of the ear, and held close to the organ, until a considerable degree of warmth is produced.

The action of these medicines which contain so large a share of *carbon* arises from the carbon in the vapour permeating the cuticle, and coming in contact with the oxygen in the vessels, which is conveyed through every part of the frame by inspiration and otherwise; thereby forming carbonic acid gas, which evolves heat in the ratio of the quantity consumed by the oxygen. The following quotations from the celebrated Liebig, in his work on *Organic Chemistry*, sufficiently prove the correctness of this position:—

"It is only in those parts of the body to which arterial blood, and with it the oxygen absorbed in respiration, is conveyed, that heat is produced: hair, wool, or feathers, do not possess an elevated temperature."

"This high temperature of the animal body, or, as it may be called, disengagement of heat, is uniformly, and under all circumstances, the result of the combination of a combustible substance with oxygen."

"In whatever way carbon may combine with oxygen, the act of combination cannot take place without the disengagement of heat."

"We can no longer doubt that gases of every kind, whether soluble or insoluble in water, possess the property of permeating animal tissues, as water penetrates unsized paper."

Does not the action of medicines containing so large a proportion of carbon which can be brought into contact with the whole external surface of the body, and thereby capable of being easily disengaged, suggest a method of relieving pulmonary disease, that is likely to be attended with no ordinary success, by calling into greater activity the action of the skin, and thereby materially lightening the labour of the lungs? Are we not the more encouraged to expect such remedial influence in diseases of the lungs, from the fact of its great power in removing indurated glands, which are so common accompaniments of consumption? There can be no doubt of the usefulness of *bisulphuret of carbon* in skin diseases.

I have submitted these observations under the conviction that they embody principles which may be carried out and made of great utility to mankind. I am, Sir, your obedient servant,

A. TURNBULL, M.D.

Russell-square, Oct. 20, 1842.

MANNER IN WHICH LIVING ANIMALS GRADUALLY BECOME DEVELOPED.

THE general law of organic formation, although one of the most essential, is at the same time one of the most abstruse branches of anatomy: I shall, therefore, endeavour to point out the advantage to be derived from including in your studies the history of development, by selecting a few of its more obvious applications.

At the present time it is a point of interest not only to the physiologist but to the pathologist, to determine the exact division between the spinal cord and the brain. This may appear a very easy matter to those who regard the spinal marrow as ending at the upper border of the medulla oblongata, and the brain as comprising all the masses placed above that line; but late researches have shown that the true spinal cord extends higher than the superior part of the oblong medulla. These investigations, as well as the earlier and valuable ones of Flourens, when rightly interpreted, tend to fix the limit of the spinal system in the vicinity of the optic thalami. Now, it is a remarkable fact that the celebrated German anatomist, Bär, in his account of the development of the brain, places the true primitive end of the spinal cord at the infundibulum and the optic thalami; and he further found that the vesicle forming the hemispheres, or true cerebral organ, did not make its appearance till a subsequent period. It thus appears, from the independent inquiries of one of the most profound observers in Europe, that in the early stage of development there is a positive division marked out between the true spinal and the true cerebral systems, accurately corresponding with the conclusion deduced from physiological research. It would be a serious mistake to suppose that these are mere barren speculations in which the practitioner has little or no concern; on the contrary, by demonstrating that nature herself has marked out, at an early epoch of existence, a structural division between the brain and spinal cord, they give a consistency, amounting almost to certainty, to the views of Dr. Marshall Hall respecting the true seat of convulsive diseases, the importance of which every practitioner who is acquainted with the fearful results of those affections will readily admit.

In another class of cases which will demand your attention in practice, namely, malformations, a knowledge of this branch of anatomy is indispensable. Cases of malformation about the anus, for example, occasionally occur, and you may be called upon to decide on the probable result, and on the propriety of an operation. Now, there are some instances in which the rectum is perfect, the anus being merely closed by the in-

tegument; here, by a division of the skin, relief may, perhaps, be afforded; but there are other cases where, in addition to the imperforate anus, fæces are discharged in the male through the urethra, and in the female through the vagina, in which relief by an operation is almost, if not quite, hopeless. In such affections as these, it would evidently give exactness to your decision, if you knew that in the embryo the intestine always ends at first in a cæcal extremity, which state may persist till birth, and so give rise to the first case supposed; and, further, that there is in the human fœtus at a very early epoch a connection between the rectum and the bladder, similar to the cloaca of birds, reptiles, and fishes, which explains the nature of the second malformation to which we have alluded.

The history of development thus discloses the unity pervading the formation of the animal kingdom. Without the information afforded by this most interesting branch of anatomy, who could have surmised that, although, in the perfectly formed animal, bronchiæ or gills are found only in one class of vertebrated animals (namely fishes), and lungs only in the other four classes (amphibia, reptiles, birds, and mammals), yet that all the five classes possess both lungs and gills at one or other epoch of their existence. The occasion is unsuitable to show you the evidence on which this interesting fact rests, or it would be easy to demonstrate that whilst the swimming bladder of the fish constitutes, as the illustrious Hunter averred, the rudimentary lung, the bronchial fissures and the bronchial blood-vessels of birds, mammiferæ, and man, are in reality the first outlines of gills. In that, to the physiologist, interesting class of animals, the amphibia, which really enjoy a two-fold form of existence, aquatic and aerial, nature, as in so many other instances, lifts up the veil which has in other animals so long obscured the fact just announced, and enables the zoologist to see,—temporarily in the tarsa of the toad, frog, and salamander; permanently in the perennibranchiate amphibia, as the axoloth, the siren, and the proteus,—the co-existence of lungs and gills.

The facts just stated are susceptible of a practical application, as there is no doubt that the extraordinary complexity of the great blood-vessels about the human heart and their malformations, and those of the heart itself, have a relation to the original but transient branchial arches, and the single ventricular cavity.—*Mr. Grainger's Lecture*, Oct. 1.

THE FUNCTIONS OF ANIMAL LIFE ONLY CHEMICO-PHYSICAL PROCESSES.

The vital phenomena of the body, however intricate and perplexed they may to our limited intelligence appear, are the result of laws as definite and exact as those of gravitation itself. Unfortunately, however, for the progress of this science, physiologists have but too frequently conducted their inquiries as if Nature, in regulating the actions of living bodies, had departed from those fixed laws which the modern progress of physics and chemistry has in all her other operations rendered so conspicuous. How otherwise can we account for some of the doctrines which still hold their place in systematic works? That, for instance, although we know, from the indisputable evidence of development and comparative anatomy, that the brain and spinal cord of mammalia are founded on the same principle, and consist essentially of the same parts as those of fishes and amphibia, yet their endowments are different in the latter when contrasted with those of the former; or, in other words, that although consciousness is the peculiar attribute of the cerebrum in man and the mammiferæ, it has its seat in the lower classes of the vertebrata in a totally different organ, the spinal cord? What prospect, it may be asked, is there of physiology taking its proper place by the side of the other sciences, whilst hypotheses are assumed as true which are thus in direct opposition to the evidence of anatomy? It is necessary that we should all be impressed with the truth that the science of life must be cultivated in accordance with those recognised principles which have achieved such vast results in astronomy, mechanics, and chemistry, and especially in strict subjection to those general laws of organic formation which have been established by modern research.

Another circumstance which must never escape the recollection of the student of physiology is, that inasmuch as the animal machine is composed of the common elements of matter, and is incessantly exchanging materials with the external world, chemical and physical forces, although controlled by those of vitality, must exert their influence, and so concur in producing the phenomena of the living body. The influence of these laws has been greatly underrated, and in this country more than in others, in consequence of the views of Hunter respecting what is called the vital principle. The experiments of that illustrious man on eggs and on the blood, by which he established the fact, that those substances were, like the solids, endowed with life, doubtless had great influence in inducing physiologists to conclude that all the phenomena displayed in animals were the result of purely vital properties; thus adopting in substance, though under a more reasonable form, the theories of Van Helmont and Stahl.

In the present day more accurate views are entertained on the subject. The valuable researches of Prout have forcibly im-

pressed on physiologists the immense importance of chemical processes in the production of the vital phenomena; and the whole question has assumed still deeper interest in the hands of Professor Liebig, the general accuracy of whose reasoning I am quite prepared to admit. Still, as it appears, many eminent physiologists underrate the influence of physical agency in what are called the organic functions, such as digestion, respiration, and secretion. Thus, the digestion of food has been very generally attributed in some way or other to the influence of the nervous power; but the deeply interesting experiments of Dr. Beaumont, made on a person whose stomach was permanently exposed by a large fistulous opening, prove that uncombined muriatic acid, the presence of which in the stomach during digestion had been previously ascertained by Dr. Prout, always flows into the stomachic cavity whenever its internal or mucous surface is touched by food or other substance; and, further, that when the gastric juice containing this acid was taken out of the stomach and mixed with masticated food, solution of the alimentary substances was effected, and chyle produced. We have here positive proof that the efficient cause of digestion is a chemical not a vital agent, a conclusion which is strengthened by the experiments of Dr. Reid on the vagus nerve. And so again with respect to secretion. The experiments of Dutrochet and Magendie on the physical properties of organic membranes, joined to the disposition of the parts employed in the process (the tubuli and capillary blood-vessels of the several glands), powerfully support the idea that the various secreted fluids are founded and separated from the blood rather by physical than vital agency.

In these and some other analogous instances it is not wished to deny that the vital power is concerned in the process; but I believe it will be found that this is only in an indirect manner. It is, however, one of the most difficult problems in physiology to determine the share which the two classes of forces, physical and vital, have in the production of the different functions. It will lessen the difficulty if it be understood that in one class of functions, and that a numerous one, although the essential cause of the phenomenon be of a physical character, yet the conditions necessary to its manifestation are maintained by strictly vital actions; and that unless this leading principle be kept carefully in view, there will be a constant liability to error. The long-disputed question concerning the source of animal heat affords a striking instance of this position.

There is, I believe, little doubt in the present day that the maintenance of a peculiar temperature in animals, depends on the introduction of a certain quantity of oxygen into the system, and on its combination with the carbon of the blood—this, the essential act, being simply a chemical process; but the introduction of the oxygen into the lungs from without, and the transmission of the carbon to that organ in order to combine with oxygen, depend on vital actions, the contraction, that is to say, of the diaphragm, and the circulation of the blood. Now this, the chemical theory of animal heat, was opposed some years ago by Sir B. Brodie, because he found that although he could, by means of artificially inflating the lungs in a decapitated animal, produce chemical changes similar to those of natural respiration, the temperature of the body sank. The inference drawn from these experiments was, that the animal heat was dependent upon the nervous power; whilst the real fact was, as has been amply proved since by Dr. W. Philip and Le Gallois, that the temperature sank, not because the brain was removed, but because the conditions necessary to the combination of oxygen and carbon in the normal proportion, were not fulfilled in the experiments just quoted.—*Mr. Grainger's Lecture*, Oct. 1.

INQUIRIES IN PHYSIOLOGY

BY MEANS OF

VIVISECTIONS AND THE EXERCISE OF COMMON SENSE.

THERE is a mode of prosecuting physiological science, besides the modes with the microscope and chemistry. I refer to experiments and vivisections, which have been productive of the most splendid results; and yet if you are not most cautious in scrutinising them, you are liable to be led from the truth. There are, however, means of testing their correctness, which will rarely fail in conducting the student to a just conclusion: in the first place, if in examining into any experiment you find that what appear to be the results are opposed to positive anatomical facts, you may safely conclude that the phenomena, owing to some of the many sources of error in which vivisections abound, have been wrongly interpreted. For example, the celebrated Magendie made a series of experiments on living animals, from which he inferred, among other things, that the first cranial nerve was not the nerve of smell: now it would have sufficed to show the error of this inference, that the first or olfactory nerve enlarges in the animal series in the ratio of the complexity of the nasal apparatus, and of the acuteness of smell. And so again in regard to the valuable experiments of Dr. Reid on the functions of the cranial nerves: there can be, I conceive, no doubt that he is in error when he infers that the glosso-pharyngeal purely ministers to motion, inasmuch as that nerve has all the

anatomical characters of the double-rooted spinal nerves, which are known to be subservient to sensation as well as to motion.

There is a still more satisfactory, and indeed infallible mode of determining the truth of physiological experiments. It is merely necessary to inquire, do the apparent results contradict our experience of what takes place—the conditions being strictly the same—in man. Suppose, for instance, that after dividing the spinal cord in a frog or salamander, you touched the hind foot with a lighted paper, or heated wire; you would find that the limb so touched became violently convulsed, and you might, without further means of judging, conclude, therefore, that the animal was suffering pain. If, however, you had an opportunity of performing the same experiment under the same conditions on the human being (and this has been done in cases of injury of the spine, causing paraplegia), you would observe the same phenomena; that is to say, the convulsion of the leg on applying heat to the foot; but if you questioned the patient you would ascertain that he suffered no pain, and was even altogether unconscious that heat had been applied to his foot. The only precaution required in these cases is to be well assured that the conditions of the experiment are the same: this being attended to, we possess the means of drawing a just conclusion in a class of phenomena in which there is the greatest chance of deception, and where, indeed, some of the most distinguished physiologists of the day, neglecting thus to scrutinise the apparent results, have fallen into and have diffused the most serious errors. In fact, if vivisections are not performed in entire subordination to comprehensive views of the general laws of organisation, and if their results are not carefully compared with the phenomena displayed in the human being, they are much more likely to retard than to promote the science of physiology. A reference to the researches of Desmoulins and Magendie will afford ample confirmation of this assertion.

There is still one other object which should be carefully kept in view in the prosecution of this the most interesting branch of your studies. You should endeavour to generalise the individual facts with which this science abounds, for it is by its general laws, not by its isolated truths, that physiology has conferred such immense benefit on medicine and surgery. Take, for instance, the general law established by Hunter, that when the main artery of a limb is obstructed, the smaller vessels of the part are capable of enlarging themselves, and of thus carrying on the circulation; a principle upon which the modern operation for aneurism mainly rests. Or, again, consider the great results which have sprung from the principle established by that illustrious man whose recent loss science has to deplore, that a nervous fibre is capable of transmitting an impression in one direction only; and, consequently, that a nerve with one root has one function, and a nerve with two roots two functions. Laws like these afford endless practical applications, and they will, doubtless, be the means by which the healing art will ultimately attain a degree of exactness and efficiency, of which at present we can hardly form a just conception. —*Mr. Grainger's Lecture*, Oct. 1.

MALFORMATION OF TWINS.

To the Editor of THE LANCET.

SIR,—Having had an opportunity of inspecting a very unique and fanciful production of nature, perhaps the accompanying sketch and descriptive remarks may be interesting to some of your readers.

On Tuesday, the 4th ult., Mr. Turner, the gentleman with whom I am an assistant, was informed by a midwife that she had on that morning delivered a woman of twins, which were very strangely connected, and, as the parent resided in the vicinity, she recommended him to inspect them. Accordingly on that evening Mr. T. politely invited me to accompany him, and great was our surprise on beholding the biformed, two-in-one, first born, whose outlines I have delineated. The mother stated that she had gone her full period, but had not been sensible of any movement of the fœtus during the last two days, which declaration was corroborated by its cuticular aspect. She had, as might have been expected, a rather protracted labour; but the midwife could not give a satisfactory account of the manner of delivery. The twins, if I may so designate the monstrous form, are rather small, the larger measuring seventeen inches longitudinally, and the other being about an inch shorter. They are broad in proportion. They are two almost perfect male children, save being united down the whole length of the bodies. There are two spinæ and two sterna, but only two breasts, the other two being evidently obliterated by the osseous union of the chests, the region intervening the approximate margins of the sterna being a bony plane. Only two of the arms are seen anteriorly, in consequence of the junction having taken place immediately before the others. There is but one cord, or funis (*f*), with its natural complement of vessels, and it protrudes through the centre of the inferior wall of the medium of connection.

Many speculations may arise relative to the internal structure of this interesting *lusus naturæ*, and I regret that it has not been in my power to obtain a knowledge of the *minutiæ* and *modus operandi* of so remarkable a machine. Mr. Turner, as well as some of his medical friends, did all in their power to induce the paternal parent to part

with this prodigy, or allow of a post-mortem examination, but their efforts were unavailing. I am, Sir, your humble servant,

D. MACKINDER.

Rose-place, Liverpool,
Oct. 14, 1842.

DISCOVERY AND DEMONSTRATION OF THE NERVES OF THE UTERUS.

SOME labours on the nervous system of the uterus were commenced four years since, and have now been brought to a successful termination. Dr. W. Hunter was the first who distinctly traced the great sympathetic and sacral nerves into the uterus, and suspected that the nerves *enlarged during pregnancy*. As he never examined the nerves of the unimpregnated uterus, and saw the nerves of the gravid uterus dissected only in one subject, he could not positively assert that the nerves increased after conception. Mr. John Hunter denied that the nerves of the uterus ever enlarged during pregnancy in the smallest degree. Dr. W. Hunter left no dissected preparation of the nerves of the uterus, nor did Mr. John Hunter, to support his conflicting statements; and in 1838 there were no preparations of the nerves of the human unimpregnated or gravid uterus, nor of the uterus of any of the lower animals in this country. In 1822, Tiedemann published a description of the nerves of the uterus, with two plates, in which only a few small branches of nerves from the great sympathetic were represented. In 1823, Lobstein stated that the uterus both before and after conception was very sparingly supplied with nerves; and in 1829, Professor Osiander declared that the nerves of the human uterus had never been seen, and that he could only assert, from the irritability of the uterus, that it did possess nerves.

In the last volume of the "Philosophical Transactions," there is a paper on the Nervous Ganglia of the Uterus, in which it is stated, from dissections of the unimpregnated uterus, and of the gravid uterus in the third, fourth, sixth, seventh, and ninth months of pregnancy, that there are many large ganglia formed on the uterine nerves, and on those of the vagina and bladder, which enlarge with the coats, blood-vessels, and absorbents of the uterus during pregnancy, and which return after parturition to their original condition before conception takes place. In the two engravings which accompany the paper, are represented these ganglia and nerves of the uterus, vagina, and bladder, in the fourth month of pregnancy. But these constitute but a *small portion* of the nervous system of the human uterus; and the forthcoming volume of the "Philosophical Transactions" will contain a further account of the nervous structures of that organ, with an engraving, in which have been accurately represented all the great blood-vessels and nerves of the gravid uterus, on the left side, at the end of the ninth month of pregnancy. About an inch above the origin of the mesenteric artery each cord of the great sympathetic nerve sends numerous branches which form a plexus around the trunk of the artery, which accompany the ramifications of the vessel, and particularly the hæmorrhoidal artery, to the rectum. The two cords of the great sympathetic, after giving off these nerves, pass down before the aorta, about two inches below its bifurcation, where they separate, the left passing down behind the hypogastric blood-vessels to the side of the neck of the uterus, and terminating in what has been called the left utero-cervical or hypogastric ganglion. This you see is a very

great ganglion, and covers a large part of the cervix uteri, and gives origin to the nerves of the vagina and bladder, and many of the rectum. All the blood-vessels of this ganglion have been injected, and an artery passes up from it, with a plexus of nerves, along the whole body of the uterus to the principal trunk of the spermatic vein, close to the ovarium, and there terminates in another ganglion, nearly equal in size to the utero-cervical ganglion. From this spermatic ganglion the fundus uteri is supplied with nerves, and the spermatic nerves are sent off, and which pass up with the spermatic artery and vein to the renal plexus. Besides these ganglia, there are others of great size situated immediately beneath the peritoneum, between which and the spermatic and hypogastric ganglia numerous large plexuses of nerves, accompanied with arteries, pass. But what is represented in this engraving is only the fourth part of the ganglia and nerves of the gravid uterus at the full period; and if it were asserted that these nervous structures bear to the uterus nearly the same proportion that the optic nerve and retina do to the eye, it is probable there would be little exaggeration of the truth. It is chiefly by the influence of these nerves that the uterus performs the varied functions of menstruation, conception, and parturition; and it is solely by their means that the whole fabric of the nervous system sympathises with the different morbid affections of the uterus. If these nerves of the uterus could not be demonstrated to exist; if, as Mr. Hunter asserted, the nerves of the uterus were not enlarged in the smallest degree during pregnancy, and that the brain and nervous system had, as he said, nothing to do with the actions of the uterus, its physiology and pathology would be completely inexplicable.—*Lect. by Dr. R. Lee, Med. Gaz.*, Oct., 1842.

MAHON'S PROCESS FOR REMOVING HAIR.

Amongst the three indications presented for the local treatment of favus, one is to remove the hair from the diseased follicle. Unless that indication is fulfilled, and the hairs are removed, no good can be effected. The old pitchcap is, happily, burnt, and even Plumbe's forceps have gone to rust. The depilatory of the Messrs. Mahon has superseded them; and although the composition is kept secret, and the remedy, therefore, is a quack one, still it must be owned to be successful. Perhaps many of our readers are not acquainted with it. We shall, therefore, give Mr. Erichsen's account of it:—They begin their treatment by cutting the hair at a distance of two inches from the scalp; the scabs are then removed by means of emollient applications and of poultices, and the skin is freed from all impurities, by means of soap and water. After this has been repeated for several days in succession, an ointment composed of lard and a depilatory powder, the composition of which is kept secret, is rubbed in every second day on the parts that are affected. A fine comb is then passed through the hair on the days on which this preparation is not used, and thus the hair is got rid of gradually and slowly, but without pain. After this plan has been continued for a few weeks, a small quantity of the powder is scattered through the hair, and the combing proceeded with. This is persevered in, according to the severity of the disease, for a longer or a shorter period, and has been found to succeed when every other mode of treatment has failed. It causes no pain, is devoid of danger, and does not prevent the hair from growing, provided the bulbs have not been destroyed. The composition of the ointment and powder is kept a secret, but according to Chevalier, who has analysed them, they consist of slaked lime partly carbonated, of a little silica, alumina, and oxide of iron (probably impurities in the lime), and of subcarbonate of potass, their activity evidently depending upon the lime and subcarbonate of potass that they contain. For the ointment of Mahon we may substitute one composed of ℥j of carbonate of potass to ℥j of lard, or else a lotion containing ℥ij to ℥iij of the same salt to ℥vj of water, either of which, if used in the way recommended by Mahon, will be found to act as mild and sure depilatories.

M. Petel recommends *Soda* (of commerce), 60 parts; *Slaked lime*, 4; *Lard*, 120. Mix together for the ointment.

Quicklime, 120 parts; *Powdered charcoal*, 8. Mix for the powder.—*Med. Chir. Rev.*, Oct.

FAILURE OF CATECHU TO CURE SORE NIPPLES.

To the Editor of The Lancet.

Sir,—Agreeably to the request of Mr. Farr expressed in his letter to The Lancet, I forward to you the result of two cases of sore nipples, treated at first exclusively with the tincture of catechu. One was that of Mrs. L., confined with her first child, on Sept. 3rd. Eight days after the birth she complained of pain in the nipples, which increased to such an extent that whenever she suckled it occasioned her the severest anguish. The nipples were now extensively inflamed, with deep fissures extending from the base to the summit. I had immediate recourse to the tincture, applying it myself, by means of a camel-hair brush, persevering with it for a week, daily, at the expiration of which time the nipples were much hardened, but without any diminution in the pain. I could now no longer prevail upon

my patient to submit to the same treatment, she alleging that it only increased her sufferings.

The second case was that of Mrs. M., a relative of the above, living in the same house, who was confined on Sept. 8th, with her second child. Ten days after her delivery the nipples, which were of full size, became so deeply fissured and inflamed, that she was unable to have the child to the breast but once in twenty-four hours. I here also applied the tincture of catechu for ten days without any decrease in the inflammation or fissures. Thinking that I had now given the tincture a fair trial, I altogether desisted from its use.

As there has been much controversy respecting the tincture of catechu as a remedial agent, I have copied the above cases from my note-book, and will report the result of future cases. I remain, Sir, your obedient servant,

J. R. POTTLE.

Bath-street, City-road.

To the Editor,—Sir, I have treated three additional cases of sore nipple with the tincture of catechu. In two of those cases the remedy failed to afford any relief, but, in the third, which was very mild indeed, being only in the incipient stage, the woman states that her nipples got well under its use, which, in all probability, would have been the case by the application of any other stimulant; so that, in my opinion, it does not excel in virtue either the dilute sulphuric acid, or tincture of myrrh, a mixture which I frequently use in the treatment of the disease. I have now treated five cases, in one of which only has the tincture of catechu been successful, so that the odds against this "specific for sore nipple" are, at least in *my* hands, as four are to one. When the tincture of catechu was first introduced, it was announced as a perfect specific for the cure of sore nipple, and was received with satisfaction and delight by the practitioner in midwifery, as having, at last, furnished him with a remedy for a disease which was most painful to the patient, and most perplexing to the medical attendant, but I fear that the expectations which were conceived of it will not be borne out, notwithstanding the two or three letters which appeared in your Journal confirmatory of all its excellent virtues.

It may be said, by Mr. Horne, of Princes street, for instance, that I used it "injudiciously." If so, then the instructions respecting its use in THE LANCET must be given "injudiciously," for I stuck fast to the very letter of the text. But fearing least I should be unjustly condemning, upon my own limited experience, an "invaluable" remedy, I requested Mr. Pottle, of Bath-street, St. Luke's, a very intelligent medical practitioner, to try it in his practice, and he informs me that he tried it in two cases lately without success. I also requested Mr. Hall, of Paul-street, Finsbury, than whom no man has more ample opportunities of testing the efficacy of any new remedy, being surgeon to the out-and-in-door poor of the parish of St. Leonard's, Shoreditch, to try it in his practice, and he states that he has never found it to do any good.

From this mass of evidence we may safely infer, that the tincture of catechu possesses no more specific powers in curing sore nipple than the tincture of myrrh, or any other gentle stimulant, and, like that, may do good in some light cases. All things considered, I think that no plan of treatment will be found to excel, in severe cases (that is, where the nipple is much ulcerated), that laid down by myself in a former number of THE LANCET, namely, the application of the lunar caustic, in substance, the infant being kept away from the breast under treatment until cured, and the draught of milk being excited in it by friction. I would to Heaven that some specific was discovered for this malady; but the question is, Does it admit of a specific? What is the physiology of the complaint? The nipple becomes inflamed in consequence of the irritation produced by suction, and the saliva from the infant's mouth, and ulceration succeeds. If left to itself, nature alone would cure it; but as the infant must be applied to the breast, so is the inflammation increased, and, the adhesions uniting, the breaches are torn down by the child's lips. Will any specific prevent this? No. Will any specific prevent a delicate hand, which is suddenly subjected to hard labour, from becoming blistered? No. The hand continues to work in pain until the skin becomes thickened by the effusion of plastic lymph, and the sensibility is lost. Will any specific cure a fistula in ano without dividing the sphincter? No. The new adhesions are broken down by the dilatation and contraction of the muscle. The healing of the nipple observes the same laws, and, therefore, it can only be cured by preventing the child from sucking it, or by the mother bearing the pain of suckling patiently, until nature cures it by the same process as she hardens the delicate hand. I remain, Sir, your obedient servant,

R. DAVIS.

Worship-square, Oct. 23, 1842.

CATECHU FOR SORE NIPPLES, SUCCESSFUL.

To the Editor of THE LANCET.

SIR,—What a pity it is that in our profession, when once a man takes up with some particular remedy, he becomes so prejudiced in its favour that constant, hammering,

dinning protestations against its abuse are required before he can be made to relinquish his hobby. I have been much amused by observing in your Journal how one practitioner swears that nothing but nitrate of silver can cure sore nipples; another, that almond oil, hot water, and borax, are the only specifics. For my part, I have had some little experience in nipple excoriations, having seven large parishes under my care, and, really, I never, until the publication of Mr. Farr's letter, felt sure of curing sore nipples when consulted by any female labouring under this most troublesome complaint. Nay, to tell the truth, I always felt as though I were *quacking* my patients, for I had found every remedy fail, and Mrs. Nature generally took the case, to my great delight, out of my hands. Since, however, I have tried the catechu, I have never found it fail. I do not order the nipple to be cleansed from the catechu previous to suckling the child. "Keep it constantly applied until it is well," are my orders, and in about a week I find it well. One woman, the other day, said, "I am afraid it will break out again, for it can't be properly cured in the time," thinking the rapidity of the healing incompatible with a healthy cure. It may be said that this is *my* hobby. Be it so. I wish all my hobbies terminated as well. Yours truly,

J. Hopgood, M.R.C.S. & L.A.H.

Bampton, Devon, Oct. 18, 1842.

HULL SCHOOL.

The "Hull and East-Riding School of Anatomy and Medicine" is said by a friend of the school to be very inadequately supported, and to be labouring under "a large debt which has been incurred in the erection of a neat and commodious building," but its means "do not appear to warrant the enterprising proprietors in extensively advertising." The formation of the medical school was first suggested by Dr. Alderson, and in 1831 his son, Dr. James Alderson, with Messrs. Craven and Wallis, succeeded in establishing a school, which has since sent forth a number of well-informed practitioners. There is an hospital in Hull stated to be "a magnificent ornament to the town, and a library of about one thousand volumes connected with it, open to students and subscribers." We are sorry to hear that the speculation of the school is not successful, for if students *must* go through the oppressive curricula of the colleges and halls, they had better do so at home, in the country towns, than in London; and if the regulations of the provincial hospitals be liberal, disease may generally be studied there much more carefully, and less expensively, than amid the bustle of a London charity.

THE LANCET.

London, Saturday, October 29, 1842.

In the various systems of education which are pursued in this country, there is one striking defect which appears to signalise the whole of them, namely, the absence of sufficient rewards for meritorious actions.

Precisely the same thing is to be found pervading almost the whole of our *social* institutions. The arrangements of society, having their origin either in custom, or in Parliamentary law, offer few inducements to high intellectual exertion, the ordinary stimulus being simply *lucrative gain*.

Had the Legislature of this kingdom exhibited a parental care in establishing and governing our medical scholastic institutions, great and ennobling would have been the result, and we should not at this epoch have been called upon to denounce the grovelling and low-minded proceedings of our medical corporations.

Several times we have had to deplore that the profession has not been true to itself; yet, notwithstanding that painful admission, and the still more painful *fact*, we fully believe that no such charge would have been applicable to the profession, had it possessed the power to originate and regulate its own proceedings.

Minds which for years have been engaged in scientific inquiries—minds which have been thoroughly drilled in the arduous pursuit of a knowledge of medicine, must, inevitably, be the best capable of judging what are the most efficient modes of conducting such investigations, and of forming correct opinions as to the value of the information that is acquired. Equally natural is it to believe that judgments thus formed must be the most competent to create, and give effect to, every proper inducement to exertion on the part of youthful students.

Systems thus formed would leave nothing to *chance*—would not render professional

offices and rewards a wheel-of-fortune into which every dirty and corrupt hand might dip with a fair chance of obtaining a valuable prize. Had the elections to medical institutions been regulated by the profession, who can believe that the great majority of the persons whose names we exposed in the last LANCET, would ever have obtained prominent and important surgical offices? The question absolutely involves an absurdity which is calculated to produce a smile on every serious countenance.

A system, then, which enables such persons to obtain distinctions, when acknowledged merit and ability remain depressed and unrewarded, ought to be denounced by every honest medical critic. In conformity with the present corrupt and detestable principles of medical government and election, the rewards are *offered* to knavery and imbecility, and, in reality, are *obtained* by them. Such is THE SYSTEM, as is proved by innumerable facts; such is THE SYSTEM, as must be acknowledged by every impartial observer who has perused the names of the present occupants of medical offices which we last week submitted to the view of the profession and the public. There would be great illiberality in asserting that several of those gentlemen, in addition to the three we named last week, are not well-qualified, practical surgeons, and having, in eulogistic terms, referred to the names of Mr. LISTON and Mr. KEY, and having noticed, both favourably and unfavourably, that of WILLIAM LAWRENCE—favourably for his acquirements, and unfavourably for the disreputable use he has made of them,—it would be unjust of us to refrain from stating that Mr. QUAIN, Mr. GREEN, and Mr. MAYO, are known to the profession as surgeons who possess very considerable scientific attainments. It would be wrong, also, to refrain from mentioning the name of that diffident gentleman, GEORGE JAMES GUTHRIE, in the same category. But the essence of our complaint consists in this, that the offices which the surgeons of our hospitals occupy were acquired by them,—not because they possessed superior abilities, but simply because they could exercise superior family and hospital influence. The places, therefore, which they are allowed to fill were obtained, not through the instrumentality of intellectual capacity, but either from a foul system of patronage, or the direct influence of money.

With such a system as *this* at work, spreading its pestiferous poison over the whole range of our medical institutions, where is that encouragement held out to genius which is calculated to bring into play the best directed exertions of the juvenile student, or the practitioner in medicine? Assuredly it will not be contended that the most important offices in the profession should remain uncontributary to our stores of medical information. That they are, for the most part, obtained by incompetent persons, is certain. Equally certain is it that they offer no inducements to men of genius who cannot back their pretensions by the knavish machinery with which those offices are worked. None of these things can be denied, even by the most callous and hardened advocate of the existing electoral system.

At, then, the STARTING POINT in medical education, the arrangement is radically defective, because at *the very first step* the student's mind should be directed to some great attainable object, that he may have a sufficient reward to keep steadily in view,—a reward that should prove a fit recompense for his arduous labours,—not a mere *mercenary* return, but one that should confer upon him, not only a substantial *income*, but, in the instance of a highly-gifted mind, the far more gratifying trophies of distinction and renown.

If, then, THE SYSTEM, in its very germ, be bad,—if the *root* take hold and fasten in a pernicious soil,—what is *the fruit* which the cankered tree must and does produce? We have already seen that the offices are not attainable by means of intellectual labour, and that to exertions of such an order they offer no inducements.

"Oh, stay," exclaims the advocate o

the present system of election in our hospitals. "Reflect what the surgeons of those "institutions have done after they have ob-"tained their offices. Look at the names of "Sir ASTLEY COOPER, ABERNETHY, CLINE, "CHESELDEN, and POTT."

To be sure. We may look at them, and rejoice that such men have existed. There are, however, others, of a very different stamp,—names that are not quite so agreeable to look upon, as may be discovered too quickly on referring to those of the VINCENTS, the SCOTTS, the STANLEYS, *et hoc genus omne*. Sir ASTLEY COOPER was, really, a splendid surgeon. But, did the system of which he formed so distinguished an ornament, tend, in any respect, to produce, or even to exhibit, the powers of his mind? On the contrary, ASTLEY COOPER obtained his appointment as surgeon to Guy's Hospital, in the objectionable and obnoxious mode of his successors, and he *subsequently* acquired his renown, by indefatigable labour, and the exercise of an unusually active and powerful understanding. The elevation of Mr. ABERNETHY to his offices in St. Bartholomew's Hospital, was also in conformity with that disgusting revolving action which has thrown up into prominent places his imbecile successors, and the name of that gentleman may be cited, both to the glory and the shame of the system. He was endowed with a peculiarly original mind. He had great intellectual capabilities, was eloquent as a speaker, lucid as a writer. Yet, what were his achievements in science in comparison with the opportunities which the walls of St. Bartholomew's Hospital afforded him? The system of which he forms a part allowed him either to exert himself, or to fall into a state of repose, precisely as he listed. There was nothing to stimulate him, or to call his faculties into activity. He exerted himself just as he might be influenced by, or as his mind might receive an impulse from, his own private interests. He was lazy. There were no competitions, no concours, to urge or whip him into action. Hence, he slumbered, and, in the chair of surgery, doled out, continuously, during a long series of years, the same unimproved series of lectures, in a great department of his profession.

Thus, to the laborious student, the offices in our hospitals hold out no inducement to exertion. Among the surgeons who acquire those offices by less reputable means than merit, they produce no qualities which stimulate to activity. Either to the youthful, or to the matured, mind, there is nothing to be found in them which demands or secures great intellectual exertions. We ask of every candid thinker whether such a system *ought* to be continued, and whether medical reformers are unreasonable in struggling for its annihilation?

But, in all probability, its odious nature cannot be fully and adequately understood without placing it in contrast with the mode in which the elections are made in the HOSPITALS OF PARIS,—a contrast which we shall take an early opportunity of fully placing before the medical profession of this country.

THE Coroner for the city of London has addressed the following letter to the Editor of *The Times* :—

"CORONER'S LAW.

"*To the Editor of 'The Times.'*

"Sir,—After having so recently had occasion to correct an error of Mr. Wakley's in point of law, I am sorry so soon to have reason to correct an error of his on matter of fact, as I had hoped that experience (which works wisdom on a certain class of the community) would have made him more cautious.

"In the case of the inquest on Dr. Kenney, reported in your paper of to-day, I see that the Middlesex Coroner has been for the third time indulging in some observations respecting the case of the girl who threw herself from the Monument. He is reported to have said, that 'on the occasion of that inquest a surgeon was examined, and when the fact was ascertained that the fall had been the cause of the poor girl's death, further medical evidence was gone into, which set forth to the world that she had not been pregnant, but had departed from the paths of virtue. Instances of this kind when they occurred tended to make a coroner's inquest a public nuisance, instead of a public benefit.'

"With a view, not to enlighten the Coroner for Middlesex, but merely to prevent the public from being misled by such nonsense, I beg to state, that in the case of the poor girl alluded to, it appeared that she had stayed out all the night previous to the act of self-destruction, and the examination by the surgeon was with no other object than to ascertain whether she had been seduced and injured during that night, and so been induced to commit suicide from the heartless conduct of some unprincipled villain, and with a view, if such had been the case, that the offender might be discovered and justly exposed.

"The public will, therefore, be enabled to judge whether the evidence was unnecessary and improper, or whether it was not a material and important part of the inquiry. I am, Sir, your obedient servant,

"W. PAYNE, Coroner of London.

"October 22."

The writer of this letter appears to be a very vain and silly person, and, notwithstanding the supercilious style in which he has dictated his remarks, he shall not escape from that exposure and castigation which his unjustifiable conduct, in discharging the duties of his office, so richly deserves. We can assure Mr. PAYNE that pomp and idle pretension shall not screen the folly of which he has been guilty, from receiving a full and complete exposure.

The Coroner for the *city* of London (not *London*) states that he once corrected us on some matter of law. As we like to show our gratitude, and as novelties are somewhat rare in this dull season, we should feel obliged to him if his exalted mind would descend to particulars, and let us know the full weight and amount of the obligation which is due to him. Mr. PAYNE cannot refrain from performing this task without exposing himself to a very disagreeable accusation.

THE LANCET of Sept. the 17th contained, under the head of a "Contribution to Medical Reform," a remarkable address from a practitioner at Dudley, whose claim to take rank as a member of the profession was disputed by the legally-qualified surgeons of that town, from one of whom we received the address for publication. It is not often that we can find room for such advertisements, they are so numerous. But the profession seems to possess no mode of checking these unprofessional compositions, where the offender goes to work as one who is really entitled by law to engage without limitation in medical practice, but that of exposure. Occasionally, therefore, we find a place for such cards and circulars; and the effect is, undoubtedly, of a salutary nature. The appeal for practice generally at once disappears from the particular neighbourhood, like an offending book that is suddenly "bought up." The circular which has a very agreeable look in the private room of a hoped-for patient, looks ugly enough in THE LANCET, and its author becomes quickly ashamed of his own child. Thus the remedy works, in absence of some other species of check which might, under a better system of government in medical affairs, be contrived to act with benefit to the profession.

On the present occasion the "Contribution to Medical Reform" has called the offender himself before the bar of THE LANCET, with a long recriminatory explanation, or defence, in the form of a letter, the only essential portion of which, however, is contained in a postscript, though Mr. LLOYD is, undoubtedly, a veritable *man*, and one of some heroism, too, if we may judge of the boldness with which he attacks disease, by the courage that he displays in face of that formidable pedagogue, LINDLEY MURRAY. We object to setting up a new style of English, by printing entire the epistle of Mr. LLOYD, but are most willing to present every portion of his defence, or justification, that the remarks in THE LANCET require, in fairness towards him, to be published. The history, then, the charges, and the reply, are briefly these:—

The medical practitioners of Dudley alleged that Mr. LLOYD was practising as a surgeon and apothecary, very extensively, in that town and neighbourhood, without being a member of any College of Surgeons, or a licentiate of Apothecaries' Hall, and, as evidence of his quackish character and proceedings, the handbill of Mr. L., advertising for

patients, was forwarded to THE LANCET, a published in the number for Sept. 17th, last.* Mr. LLOYD's defence is, that the address was first issued by him *two years ago*, that therefore its reproduction now is malicious, and that it was employed only "on "behalf of a numerous family, when, at that "time, he endeavoured to make himself "*known*, though not doing so in the charac- "ter of a quack." Mr. LLOYD says that our correspondent complained of "his conduct.' We quote entire his remarks on this point:—

"They have not named the Charge,—what my 'Conduct' was. Allow me, Sir, to state a few facts as to *my conduct*. On the 2nd May, I called, at the house of a respectable person, who had some time, previously, engaged me to attend her, in her ensuing confinement. My appearance seemed to give the Lady great surprise, as she had been given to understand by one of the said seven, that I had left Dudley, 'because the Surgeons would not let me remain.' This report, of course, got current, and, I felt it to be my duty to contradict their false statement, as early as possible. In the *Ten Towns' Messenger* of May 6th, an advertisement appeared from me respecting their slanders and malicious fabrications. I give them to understand, that the authors and traducers, could be acertained without difficulty,—the seven were cautioned against their sly subdulous detractions, and not to indulge in such mean slander which could only emanate from jealouscies—yet while I despised my opponents (mere tyros) I equally Defied their power; and I do *now*. —This, I should suppose is 'the Conduct'—in exposing them,—which, made *the* '*seven*' communicate to the Apothecaries' Company *their* 'narration' and to draw their own inferences respecting my medical education—the *time* and *places* which I have 'undertaken the duties of a regular practitioner of medicine.'"

Mr. LLOYD says he is surprised at the surgeons of Dudley applying to the Apothecaries' Company, because, by calling upon him, Mr. LLOYD, they should have had "ample opportunity of knowing him, from *Geneses to Revelations*." He says that he *told* three of them that he "was qualified," but they declined his "first-rate references," in order "to prejudice friends in the town against him," being "revengeful and mortified at his success with some of their old "patients in Dudley and its neighbourhood." Mr. LLOYD insists (we give his own words again) "that the wants of the public have "been *in every case efficient*, as far, as I am "yet, or have been concerned, and that accordingly to law (as I am fully qualified)."

In addition to these announcements, the circumstances require that we should subjoin only the following portion of the postscript:—

"P.S.—I can prove that I was in practice *long before* August, 1815, and that *I have not* usurped the *title* of M.R.C.S. Your correspondent also infers that I have 'not received a medical education.' What an idea! With regard to my medical education, skill and knowledge of disease, I hope, I have *learnt enough* so that, at all times, in whatever case, *medical* or *surgical*, I shall, always, be found efficient, as hithertofore."

Of course, if Mr. LLOYD was in practice as *an apothecary* before August 1, 1815, and is in a condition to *prove* that fact in a court of law, to the satisfaction of the judge and a critical jury, he may safely defy the medical practitioners of Dudley, the Apothecaries' Company, and everybody else to boot, on the score of his qualification. No otherwise is the truth to be tested, unless, indeed, Mr. LLOYD sets it at rest by candidly laying his proofs before counsel, and obtaining a legal opinion on some such inquiry as the following:—"Am I, in 1842, a legally-qualified "medical practitioner, in consequence of "my proceedings in, or before, July, 1815?" The cost of this application would scarcely amount to more than the expense of distributing another thousand or two of handbills in Yorkshire, and we certainly are not surprised,—in the absence of some better evidence of qualification than is deducible from the present letter of Mr. LLOYD,—that the medical gentlemen of Dudley should apply to the Apothecaries' Company to interfere on behalf of those costly professional rights and interests which they have purchased under the ordinances of the medical institutions of the country.

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* See, also, LANCET, Oct. 22nd.

WESTMINSTER MEDICAL SOCIETY.

Saturday, October 22, 1842.

Mr. H. J. Johnson, President.

FORTNIGHTLY MEETINGS.—ELECTIONS.

The first meeting for the session was held this evening at Exeter-Hall. The president (Dr. G. Bird), in vacating the chair, made some remarks on the present condition of the society. He said that during the past session it had been placed in difficulties by the apathy of the many members who had failed to use that amount of exertion, in relation to its interests, without which such societies could not possibly flourish. This was one of the oldest institutions of the kind, and numbered among its associates many of the most distinguished men in the profession. He called upon the members present to exert themselves, and to prevent the possibility of the present being the last session of the society. It was too true, that many of the senior members had left it, after having passed through the various honorary offices; but he hoped that the activity of those who did attend would tempt back some of those who had deserted, or, failing in this, that they would infuse some young blood into the society. The committee, after mature consideration, had come to the conclusion that weekly meetings were too frequent, and they had determined (power having been granted them by the society) to hold the meetings only on every alternate Saturday. Perhaps thus it might be arranged to carry them on during May and June, in accordance with the plan followed by some other societies.

Several members were then proposed to fill the various offices which become vacant at this period of the session, and these will be ballotted for at the next meeting, which will be held on Saturday, November 5.

FATAL PRESSURE ON THE BRONCHUS, BY ENLARGED BRONCHIAL GLANDS.

Dr. Golding Bird then read the following case and introductory remarks:—

The circumstance to which I am anxious to draw the attention of the society has not the advantage of novelty to recommend it, neither is it of sufficiently frequent occurrence to render its investigation a matter of serious importance to the practical physician, although, as a pathological fact, I feel justified in devoting a portion of time of the meeting to its consideration. The changes which the bronchial glands undergo in disease are, for the most part, well known; and the occurrence of tubercular degeneration and strumous softening in their structure, as well as the fact of their occasional enlargement, often to a considerable extent, and independently of the presence of tubercle, are referred to by all writers on medicine. The general, and indeed almost constant, coexistence of phthisical diseases with heterologous deposit, in enlargement of the bronchial glands, is admitted by all. Louis remarks, that when they were found tubercular they were very generally of increased volume, and greyish or black, rarely tinged with red. And in about one-tenth of the fatal cases of phthisis he examined, the cervical lymphatic glands were implicated, being hypertrophied and injected when not actually degenerated in their structure. Numerous cases of the occurrence of enlarged bronchial glands in diseases independent of phthisis, may be found in many pathological works, especially in the laborious production of Morgagni. The mere enlargement of the glands under consideration has but rarely been regarded as of much importance, and the very fact of its occurrence has generally been but barely alluded to by writers on thoracic disease.

The society will probably recollect that during the past session an evening was occupied in the discussion of the possibility of death being accelerated by pressure of the glands on a bronchus, in the case of an autopsy related by Dr. Johnson; and it is to this point in particular that I wish to devote this evening's debate.

I have now witnessed several cases of phthisis terminating fatally, in which the amount of disorganisation recognised before death by physical signs, and demonstrated afterwards by the scalpel, was by no means sufficiently extensive to account for the rapidly fatal termination which occurred, and in two or three of these the left bronchus was found completely flattened, its section being a mere figure, instead of an expanded cylinder, and embraced by two of the lymphatic glands, peculiar to that position, enormously enlarged, and hard in their structure. To one of these cases, one of very late occurrence, I will briefly refer.

Eliza Burman, æt. 16, an exquisitely strumous-looking girl, with dark hair and eyes, and very fair skin, was admitted under my care in July last, at the Finsbury Dispensary. She had been the subject of extreme dyspnœa for several months, attended with but slight cough, and a scanty viscid expectoration; her nights were restless, and frequently passed in the semi-recumbent position; and this constituted the sole ailment of which she complained. It appeared that she had lost a father and two sisters, besides some cousins, with phthisis; she stated that she had never spat blood, had scarcely lost flesh; indeed, when I saw her first, she was rather stout for her age; the catamenia had been regular. For about a twelvemonth the whole chain of the cervical glands on the left side had gradually become enlarged, and formed one irregular lobeal tumour, producing extensive deformity, extending from the front of the left ear to the clavicle, the parotid

gland being implicated in the disease. This mass of enlarged glands felt extremely hard and unyielding; it was not tender to the touch; the skin covering them was not reddened, and no appearance of suppuration existed. On examining the chest, there was very slight subclavicular flattening on the right side, and there, as well as on the whole of the right half of the chest, percussion elicited a dull sound. The respiratory murmur was replaced by bronchial respiration in the infra-clavicular and scapular regions, whilst in the middle and inferior part it was puerile; in several places, attended with an approach to tubular respiration; the expiratory murmur was loudly distinct in the upper part, and the vocal resonance increased. In the left chest, percussion produced a much more sonorous sound than was natural, being in remarkable contrast to the right side; the respiration was imperfectly audible, and in the upper part was bronchial; the heart appeared healthy.

There could be but little doubt as to the nature of the disease under which this girl laboured; the existence of tubercular deposit in the right lung was evident; the state of the left was less satisfactory; the probability of the existence of emphysema was, however, sufficiently obvious; the only doubt that could arise, was as to the deposit in the lung being malignant, from the state of the cervical glands, which I have described; but the progress of the case, and the absence of the pink sputa, to which attention has been drawn by Drs. Stokes, Addison, and Cowan, soon removed all doubt on this head.

In spite of treatment the dyspnœa increased; respiration became less and less perfect in the left chest, which continued still to be extremely sonorous on percussion, and very soon evidence of cerebral congestion occurred; the frequent and almost constant dull, heavy headach; the noise in the ears; the extremely flushed face, most marked on the left side, all bore witness to a state of brain, readily explicable by the impeded return of blood from the head, and the pressure of the cervical glandular tumours. In a few weeks some stupor made its appearance—from this she rallied, and was able to take some little exercise; when at last, after taking slight cold, dyspnœa became more marked, and she died about five weeks ago, without any emaciation, cough, expectoration, or any of those signs which mark the closing scene of consumption.

In the examination after death the head was not examined; there was scarcely a pleuritic adhesion to be found; the heart was loaded with black blood, and the vessels tinged; the right lung was nearly solidified with crude tubercles, none presenting a more than slight tendency to softening; no cavity of any kind existed. The left lung was distended with emphysema, some tubercles were scattered throughout; the bronchus on that side was, however, found pressed completely flat, so that only a narrow fissure existed through which air could pass. The cause of this pressure was found in two bronchial glands, each about two inches long, between which the flattened bronchus was found. All the lymphatic glands of the chest were exceedingly enlarged. On making sections of these bronchial glands, they were found full of white caseous matter, without presenting any appearance of the black or grey matter so frequently met with. The abdomen was healthy, with the exception of the mesenteric glands, which were exceedingly enlarged. The enlarged cervical glands had remarkably diminished in size after death, so as scarcely to present a trace of that deformity which they produced during life. The body presented no appearance of emaciation.

So far as the examination was made, it is sufficiently obvious that no sufficient cause of death was discovered, unless the effect of the compression exerted on the left bronchus be taken into account. There was no extensive disorganisation of the lungs, no effusion into the chest, or any other important organic affection, or other disease, which might help to explain the fatal termination. I confess that I regard the diseased condition of the cervical and bronchial glands as the great source as well of the symptoms which preceded as of the fatal event itself. In fact, we have here a case of tubercular deposit in the lungs, which in all human probability would have allowed life to continue as many months as the disease really occupied weeks, terminating with symptoms of asphyxia, preceded by head affection; for the latter, the pressure exercised by the cervical glands on the vessels of the neck will sufficiently explain; whilst for the former, I think the pressure, or rather constriction, exerted by the enlarged glands on the left bronchus, is sufficient; so that as the right lung was nearly consolidated by tubercular deposit, so as to be incompetent to carrying on respiration, it would follow, as a necessary result, that to produce death a constriction of the bronchus going to the lung, by whose aid life had been carried on, was alone necessary. It is true, that the closure of the tube was not so complete as to prevent all air entering, for after death a chink-like opening existed; but when it is borne in mind that the cervical glands, which during life were sufficiently enlarged to form an unsightly tumour, shrunk extremely after death, it is but fair to presume, by a parity of reasoning, that the same thing occurred in the bronchial glands; and that during the last hours of life the bulk of the latter might become so increased by congestion, as gradually to shut out all access of air, and then after death to shrink, after the manner of the cervical

glands, to the size discovered on dissection. The few cases of this kind which I have witnessed have all followed a similar course; and in those where I have been induced to regard the constriction of the bronchus as the immediate cause of death, no grey matter was found in the glands; they were either merely enlarged, or contained some of the cheese-like strumous matter to which I have referred in the details of the above case. These circumstances have occurred constantly in the few cases I have witnessed:—

1. That phthisis existed generally in the stage of crude tubercles.

2. That the tubercles were most numerous in one lung.

3. That the cervical and sometimes the axillary glands were exceedingly enlarged, and sometimes painful.

I shall not occupy the time of the society by narrating the treatment, as I am rather anxious to throw this humble contribution before them to acquire value by the observations and remarks of the members present. Regarding the frequency of these cases I can offer no information of value; I can only give the result of my own observation, that during the last five years, when at our institution alone more than fifteen thousand cases had been under my care, I have only met with three cases of phthisis in which I could explain the rapid sinking in that disorganisation to the causes alluded to. I have not had occasion to find this diseased condition of the bronchial glands producing constriction of the bronchus in any other disease than tubercular deposit in the lung.

Dr. L. Stewart regretted that the head was not examined. He inquired if any member had known a fatal case of phthisis without emaciation?

Dr. Bird recollected only one such case.

Mr. Brooke had seen, some years since, in the Cambridge Hospital, a case in which one of the bronchi was almost obliterated by the pressure of an enlarged bronchial gland. The lung on that side was completely studded with miliary tubercles in their incipient stage. Had the obstruction in the bronchus anything to do with the deposition in question? The other lung was quite free from disease.

CAUSES OF EMPHYSEMA.

Mr. Snow said, that the case related by Dr. Bird very well illustrated the manner in which emphysema of the lung was generally formed. The emphysema which accompanied asthma, although it aggravated the complaint, was no doubt generally a consequence, and not the cause of the asthma. It was stated by many that the cough in asthma caused the emphysema, and in this he concurred to a certain extent; but he felt convinced that the strong effort of inspiration accompanying the cough was the true cause, and not the cough itself; and this case supported this view, since there were strong efforts of inspiration on account of the obstruction to the ingress of air, but there was no cough. In healthy respiration the air readily entered without any violent action of the muscles of inspiration, but during cough it was different, and especially where there was any obstruction to the entrance of air, as from constriction of the glottis in hooping-cough. Now the violent expiration of cough could not dilate the air-cells, since the pressure was equable on every cell, and could only tend to reduce their size; but during inspiration the case was reversed; part of the atmospheric pressure being removed from the exterior of the cells, the air contained in them would incline to distend them by its own expansive force. This position was illustrated by the usual experiment to show the elasticity of gases, viz., that of putting a bladder containing air into a receiver, and increasing the atmospheric pressure upon it by a condensing pump, whereupon the bladder became reduced in size by the pressure on its contents, but was not the least injured in texture; and then placing the same bladder under the receiver of an air-pump, where it was seen to enlarge as the atmospheric pressure was withdrawn, until it burst, if the experiment was continued.

Dr. Bird considered that the explanation of Mr. Snow was ingenious, but he was not inclined to follow it the whole way; he rather approved of the explanation of Dr. Stokes, and others, that the act of inspiration was more powerful than that of inspiration, and that hence emphysema was apt to arise when there was any obstruction in the air-passages.

Mr. Snow said, that that was true of ordinary respiration, but that cough was more forcible than any effort of inspiration, as he had ascertained, by making efforts of respiration through a glass tube with one end dipped in mercury.

Dr. Bird remarked, that there was no cough in the case which he had related.

KING'S-COLLEGE MEDICAL AND SCIENTIFIC SOCIETY.

UTILITY OF DEBATING SOCIETIES.

This society resumed its meetings on Thursday evening, Oct. 13, Dr. Budd in the chair.

The Secretary read an introductory address, embracing the arguments for and against debating societies. We have only space to extract the following sketch of their general character and usefulness:—

"A paper is read by one of the members upon some subject connected with those studies that we meet here to forward. Every member, in turn, being called upon to read,

it follows that every member enjoys in turn the advantages that this duty may involve. And what are they? The members of the society fall naturally into two classes: those who are closing, and those who are commencing, their period of study. The less advanced student, naturally anxious to acquit himself honourably in the eyes of his companions, will be careful in the selection of a subject which, while it is within his reach, offers points worthy of investigation and debate. The mere search for a subject becomes thus, unconsciously, a source of information; —information of such a class as can arise by possibility only from his own reflection upon what he hears and sees, and which, but for this, or a similar, impulse, might have remained dormant to the end. He passes in review before his mind a long chain of facts or theories, and measures them by the standard of his design; compared, thus, all with the same level, they are compared with one another. He will then distinguish magniloquent enunciations of theory, or trifling matters, from the simply and modestly-suggested explanations of important facts; for he will find that the former, upon investigation, appear infinitely below his purpose; the latter, perhaps, superior to his capabilities. * * * The young student, then, has at length made choice of a subject for his essay; it is, naturally, one congenial to his taste, and he enters upon it with good-will. He may profess to make light of it, but no one will believe that he does not look forward with something like ambition to the success of his first essay; he would be most unenviably phlegmatic if he did not do so. He seeks, therefore, by every means in his power, to extend his knowledge of the subject he has chosen; and if his choice of a field of investigation has been good, he now reaps the benefit of a cheering and abundant harvest. There is no study (and I say it most emphatically) that, prosecuted in a becoming spirit, opens so glorious a view to the mind of the observer as medicine. If the astronomer is bowed to the dust before the majesty of God, the student of the human frame is lifted heavenward, in contemplation of His mercy and loving-kindness; we have but to dive a little way below the surface, and the riches of the deep are in our view, we gaze with rapture upon precious gems, and all the vast glittering heap that lies buried there beneath, till we forget the chill of the first plunge. * * * We have observed, then, two advantages accruing to the inexperienced reader of a paper in debating societies similar to the present. 1. He is led to compare the facts and theories passing in review before him with one fixed standard in his mind, that standard being essentially a *practical* one. 2. By entering voluntarily and with good-will upon the close investigation of one particular branch of the study to which he is devoted, he discovers how much of the most exalted pleasure is afforded by our profession to those who look beneath its surface, and is thus incited to do that for inclination and love which he before recognised only as a duty." (The value of a perspicuity of style and due arrangement of subject matter was then dwelt upon, with a slight allusion to the importance of adopting them in passing written university examinations. The knowledge acquired of the subject on which the paper treats, was looked upon as the last and least advantage.) "In the more advanced student, indeed, the case is altered, and to speak to him of the value of investigation is perfectly unnecessary. He is already versed in that which his junior with honourable industry is seeking to discover, and he will not be content with merely putting together a puzzle that he knows by heart, however complex its pieces may have, at one time, seemed. He has dived below the surface, and long gazed upon the treasures of the deep; but he will not be content with merely looking at them; he will strive to penetrate lower than his companions, and bring up some gem from the vast store before him, or at least obtain a closer view of some one thing that has arrested his attention. He will endeavour to make discoveries for himself; he will observe nature, and, independently of others, draw his own unbiassed conclusions; he will endeavour to arrange what he sees for himself, in some more available form, to construct, in fact, new theories,—in a word, will strive to be original. To him the subject of his paper is the principal and only care; and it is from papers written at such a period as this that have been scattered forth the seeds of many a mighty tree; and many a recorded fact, and many an accepted theory, have taken rise in the endeavour of some more advanced student (soon to be an illustrious ornament of his profession) who has sought, as member of a debating society, to produce a paper worthy of his standing." Space will not allow us to extend our quotation to the succeeding analysis of the debate.

Thanks were voted to Mr. Morley for his paper, in putting which to the society,

Dr. Budd dwelt very forcibly on the value of medical debating societies. He alluded to a recent visit to the Medical Society of the University of Edinburgh: this society had been established very many years, and possessed one of the most extensive libraries in the city; and its rooms were hung round with portraits of its former members who had gone forth into the world, and whose names had since become the boast of their profession and their country. That society exhibited with the greatest pride a book containing the signatures of their annual presidents, from the time of its foundation downwards, for among them the most illustrious names were registered. Dr. Budd earnestly urged

upon the students not to neglect the advantages which their own society held out.

It was then moved, seconded, and carried by acclamation,

"That the sincere thanks of this society be most respectfully presented to the professors of the medical department, who, in the kindest and most effectual manner, have secured its prosperity by presiding in rotation at its weekly meetings, and that they be earnestly requested to continue towards it the same countenance and support."

Thanks were then voted to the late secretary and treasurer (Messrs. Inman and Johnson); to the vice-presidents, Mr. Bowman and Mr. Simon, and to Dr. Miller; when, after other business, the society proceeded to the election of new members. Twenty-three names were added to the lists.

Thanks were voted to the Chairman, who, in reply, congratulated the society on its prosperity, observing that the number of new members elected was considerably larger than at a first meeting in any former year.

LONDON MEDICAL SOCIETY, Oct. 17th and 24th.—We have in type a report of a debate on the Causes and Nature of Inflammation, which has occupied the members of this society, and excited great attention from overflowing audiences, during the two last evenings of meeting, but cannot find room for its insertion until next week, having delayed the first half until the whole could appear at the conclusion of the discussion.

BRITISH MEDICAL ASSOCIATION,

Exeter Hall, Oct. 25.

ARRANGEMENTS were this evening made for holding the anniversary meeting at the British Coffee-house, Cockspur-street, on Tuesday, the 8th of November next. Letters were read from Mr. J. H. Nankivel, and other gentlemen, on the present aspect of medical politics.

*** In the advertised list of those members of the association who are *eligible* as councillors for the ensuing year, the name of Mr. Liston was inadvertently inserted instead of Dr. Lynch, who, together with Messrs. Bottomley, Neville, and Toovey (of Croydon), and Mr. Lloyd Pinching (of Walthamstow), *are* eligible for the council in the ensuing year.

OPERATIONS AT KING'S COLLEGE HOSPITAL.

To the Editor of THE LANCET.

SIR,—"Chirurgus," in THE LANCET for October 15th, did not show his wisdom by drawing conclusions from cases which were not yet finished. On the 17th I saw the two cases, which are the objects of his criticism. The man, the subject of lithotrity, is in excellent health, and since his return from the country has undergone a further operation. He expresses himself as being relieved to a degree that he could not have expected; his life is now one of comfort, whilst previously to his first coming to town he was worn down by suffering. There is every prospect of a complete cure. So much for this "unfortunate case." In the second case, "Chirurgus" seems to forget that the uterus is prolapsed; yet with that unfavourable circumstance the woman is improving, has more power over the bladder, and is most grateful for the relief which has been afforded her from the excruciating agony she suffered from the calculus. She has retained her water on one occasion for two hours since the operation.

I may just state, for the purpose of calming the fears and soothing the fine feelings of "Chirurgus," that the dilatation, which occupied upwards of two hours, was effected with little pain, and without the expression of a sign. As to the *natural* dilatation of the urethra recommended by him, according to my reading and experience such a process is quite a novelty. I was not aware that Mr. Fergusson had ever decried lithotrity. Neither in his "Practical Surgery," just published, nor in his lecture in THE LANCET on the subject, do I find the statement borne out, in any way, that is made by "Chirurgus," who may probably be aware that incontinence of urine follows slow as well as rapid dilatation. I am, Sir, yours, &c.

THE REPORTER.

October 18, 1842.

THE KINNERTON-STREET SCHOOL.

To the Editor of THE LANCET.

SIR,—As you have inserted some communications disparaging to the Kinnerton-street School of Anatomy, your known impartiality will, I am sure, make you open your columns to a reply.

As a Kinnerton-street pupil of three years' standing, I feel myself bound to notice the letter of a "Student" in your last number. It is pretty clear to me that your two correspondents on the subject are one person, a stale trick for making that appear a general sentiment which is confined to two or three ill-natured and discontented individuals. That the three prosectors are an absurdity I deny. As one of the *dissectors* who are said by your veracious contributor to be making a clatter, I confess my gratification and advantage from the arrangement. The "Student," good soul, would like, no doubt, no questions asked, nor information given, while he is pursuing his profound

reveries. The *prosectors* attend at different hours, so that there is always one, and rarely more than one, in the room at a time. How, then, can they interfere with one another? This is expressly stated in the prospectus. I am sure that the attentions of Mr. Spitta, Mr. Jones, and Mr. Candy, give satisfaction to all but this wretched student, whose meditations are so cruelly disturbed. The curator is admonished for not having *two* ideas in his head at the same time, but he has the advantage of the "Student," who, I am certain, never has *one*.

The attack on Mr. James Johnson is grossly unfair. That gentleman is accused of not "eloquently teaching physiology," but rigmaroling and using vulgar expressions. I do not know what the student's ideas of eloquence and physiology are, but to my mind, and I know I express the common opinion, Mr. Johnson is one of the most eloquent lecturers I ever heard; his language is generally elegant and classical, and sometimes rises into the highest eloquence. He possesses remarkably the power of carrying his audience along with him. You might often hear a pin drop while he is speaking, and we do not see at his lectures the yawns and recumbent heads so plentiful at those of his colleagues. As for his physiology, delightful as it is, he sometimes gives too much of it, certainly twice as much as Mr. Tatum. Undoubtedly, in the demonstrative part, Mr. Johnson has interspersed the processes and foramina of the bones, &c., with jokes, which are always good natured, and often capital. His manner is lively, and he seems to have a stock of animal spirits, which sometimes, I think, carry him too far. It is easy to pick out a phrase, garble it a little, and, putting it alone, make it look ridiculous or incorrect. But, for my part, I conceive I gain more by being kept awake with a little pleasantry on a dull subject, than by being sent to sleep by a prosy harangue.

This is only bare justice to Mr. James Johnson. A principal reason of my "entering" to the school was delight at his lectures, and if they were withdrawn, I am sure the school *would* fall off. It certainly, in spite of your *honest* correspondent, is *not* falling off at present, for the entries this year are higher than ever.

There is a point on which I cannot hold Mr. James Johnson blameless. Why did he suffer himself to be advertised as demonstrator when he does not demonstrate? This is not right. Your correspondent is in raptures with Mr. Henry Charles Johnson's demonstrations. I confess I am not partial to his "damnable iteration," nor to his unhappy knack of calling things by their wrong names. I have known him all through a demonstration call a scapula, calcaneum, to the great amusement of the old students, and woful perplexity of the young ones. Either Mr. James Johnson should demonstrate, or should have his name erased as demonstrator. He is a very accomplished gentleman, and a very honourable one, and he cannot fail to see that this is a fraud upon the pupils. I am, Sir, yours, &c.

A Pupil of Kinnerton-street, and an Enemy to Misrepresentation.

October 23, 1842.

GUY'S HOSPITAL.

To the Editor.—Sir, The physicians and surgeons of this institution "walk the hospitals," both of them, at one o'clock, and great confusion is necessarily occasioned by so many pupils meeting in one ward, distracting their attention, and alarming the patients. If the physicians would go round at *one* hour, and the surgeons at *another*, every student would have the opportunity of seeing the daily treatment of both medical and surgical cases, whereas, under the present system, it is impossible. To effect this, I suggest that a board, with the hours exhibited at which the physicians and surgeons go round, should be placed in a conspicuous spot, and that they go round *punctually* at the hours specified, those hours being not identical. As a student, I feel confident that if this suggestion was adopted, Guy's Hospital, with its existing advantages, would stand at the head of the London schools. I am, Sir, yours, &c.

Guyensis.

Library, Guy's Hospital,
Oct. 24, 1842.

SOIREE AT ST. THOMAS'S HOSPITAL.

On Friday evening, the 21st inst., a "microscopic entertainment, announced as the first for the session, was given in the great hall of this hospital. The business of the evening was opened by an address from Mr. Grainger, lecturer on physiology in the school of the hospital, on the amount of our knowledge on organic structure as developed by research with the microscope, reviewing, briefly, the more important and recent contributions with which the Germans have enlarged our knowledge of organisation. Those of Schleiden and Schwann, on the relations of the cytoblast and cells in the production of all forms and varieties of organic structure, and the identity which their labours have proved to exist between the laws that regulate these primordial forms of living matter in the animal and vegetable kingdoms, were mentioned as the highest in value of any with which the domain of physiology had been widened in modern times. In connection with the subject of nucleated cells, a high eulogium was passed on the recent investigations of Dr. Barry into those changes

which mark the commencing development of new beings. The author of the address stated that it was proved by the labours of Dr. Barry that the earliest cognisable step in the process consisted in the formation of nucleated cells, anterior to the appearance of that which subsequently becomes the *area pellucida*, which correspond in character with those that the German observers have shown to constitute, really, the origin of all forms of animal and vegetable structures. The several phases which the spiral variety of vascular tissue, even within the range of the vegetable kingdom, is capable of assuming, was explained by means of diagrams, and allusion particularly made to the fact, that the annulated, the dotted, the pitted ducts, observed so abundantly in vegetable tissue, were traceable to the spiral form as a common origin. It was shown, also, that it was quite philosophical to admit analogy, to a considerable extent, as regards the plan and process of formation between these spiral structures of vegetables, and the tracheary apparatus of insects, birds, and mammalia. The last subject noticed was that which excited the most interest. It related to the minute structure of the muscles of voluntary action. An exposition of the prevalent and conflicting views was given,—of that first entertained by Mr. Bowman, which supposes the primitive fibres to be composed of flattened particles, or discs, placed in contact, by their flat surfaces; and of that, secondly, maintained by Dr. Martin Barry and Dr. Leeson, according to which it was conceived that the same primitive fibre was composed of a double spiral, arranged in a definite and invariable manner. It was remarked that this formation had been fully made out by Dr. Leeson, six months before the period at which the observations of Dr. Barry were made. Without attempting to decide on the merits of these two views, it could be positively affirmed, from the evidence, more particularly of Dr. Leeson's preparations, that there could be no doubt as to the existence of a double spiral, whatever its seat or nature might be.

In the theatre of the hospital a powerful and improved oxy-hydrogen microscope, constructed by Ross, under the direction of Dr. Leeson, was exhibited. The phenomena of polarisation were perfectly shown; and the crystals of common tartaric acid, as observed through this instrument, excited great curiosity. The art of microscopic observation was complimented on this occasion by the crowding of the long table of the hall with lamps and instruments, giving to the scene a novel and very brilliant character. Among the company present, which consisted of nearly six hundred persons, were many German, French, and Italian professors, and many of the medical teachers of London. Tea and coffee were liberally supplied for refreshment.

CORONER FOR STAFFORDSHIRE.

As our Journal was going to press, this week, we received intelligence, through the *Wolverhampton Chronicle* of Oct. 26th, that a vacancy has occurred in the coronership for the Southern division of Staffordshire, a large and very populous district, a division of which into two legal parts is about to take place. The late coroner, Mr. Smith, was an attorney, and had been incapacitated for a long time, by illness, from holding any inquest, and Mr. Fowke, the coroner for Stafford, also an attorney, has been acting for him. Unless two candidates start for the office that gentleman will succeed to the coronership of Wolverhampton; but there still will remain two vacant coronerships, namely, that of Stafford, respecting which no movement has yet been made among the electors; and the district which will be disjoined from Wolverhampton. For this latter portion of the county, there are at present two medical candidates, Dr. James Turnbull and Dr. J. Dehane, both of Wolverhampton. But, exercising a very correct and praiseworthy judgment, it is likely that Dr. Turnbull will retire on behalf of Dr. Dehane, who, we understand, is a highly proper person to fill the office. His medical experience has been considerable, and he is already a magistrate. We have this week only room to add, that so strong a feeling exists in the locality in favour of appointing medical men to fill the office of coroner, that the union of the surgeons and physicians who reside in that division of the county, in favour of Dr. Dehane, should Dr. Turnbull retire, will secure another triumph in this kingdom on behalf of good government and common sense. We trust it will be promptly and energetically made. Mr. Smith had been the coroner for forty years. He died on the 22nd inst.

DANGERS IN MEASLES.

The subject of measles, as it occurs in infancy, is worth the attentive study of the profession, as in some works the modifying circumstances which arise from early age in this disease are not noticed at all, and in none of them is the importance attached to them that they deserve. From what I have seen, I think that even the most healthy form of the disease is not unattended with danger in very early infancy, and that the practitioner ought consequently to pay the most scrupulous attention to those complications from which the greatest danger is to be apprehended. Even in vigorous children there are two sources from which this is likely to arise; the high vascular action which is natural to the brain until dentition is completed,

and the narrowness of the larynx, which exposes the infant at all times to the danger of sudden death, from even a slight impediment to that delicate organ, the first by suddenly giving rise to convulsions, the last by developing croup, by the tendency of inflammation in the mucous membrane to assume the plastic form at this epoch of life, as this membrane of the larynx seldom escapes some degree of inflammation in measles.—*Dr. J. F. Duncan, Dublin Jour.*

HOT BATHS FOR CHILDREN.

In a severe case of ulceration of the tonsils, followed by measles, which was "worthy of consideration in consequence of the imminent danger in which the child was placed at the commencement of the attack, and the resistance exhibited to the strong remedies applied for the relief of the convulsions," Dr. Duncan remarks, "that baths in affections of this nature often prove ineffectual, from the low temperature at which they are given; parents or nurse-tenders objecting to have them hot, from a foolish fear of their producing faintness. But the state of cerebral congestion at such times, has such an influence upon the general system, that this apprehension is entirely groundless; but even if danger of this kind should ensue, the remedy is simply to remove the child from the water." The temperature tried in the above case was 108° F., and, "from the sensation conveyed to my hand, it might have been easily used much warmer. Not the least symptom of syncope appeared, although the child was permitted to remain eight or ten minutes in the bath."—*Dublin Journ.*

HOT STIMULATING APPLICATIONS.

Mr. Grantham, of Crayford, after eight years' experience says, that he still advocates the necessity of keeping up the action and temperature of the cutaneous structure in inflammation, laceration, or contusion of the cartilaginous, ligamentous, tendinous, fibrous, and muscular structures of the body, denouncing in those affections the application of cold, and the diminution of power by means of local bleeding near the injured part. Hot stimulating applications, he contends, have a decided preference in lessening the sufferings of the patient; while, on the other hand, much time is gained in restoring the reparative action of the parts, notwithstanding that tumefaction, redness, and swelling of the cutaneous and subcutaneous structures, generally proceed with great activity during the first four days, and gradually subside about the seventh or eighth day, leaving the deep-seated structures comparatively free from pain, either on motion or pressure. The truth of this, he says, will appear evident on reflection of the well-known Hunterian law, that no two inflammations can exist with equal force in the same system. The one will mitigate the other. Excitement of the arteries in the vicinity of an injury assists much in the restoration of a sanative action. Only diminish the power of the arteries and exhalents below the natural standard in such injuries, and you deprive the limb of the means of repairing the mischief, and too frequently bring on phlegmonous inflammation, or sphacelus. I do not mean, he continues, to condemn general depletion when the pulse is quick and hard; but assert that local bleeding by leeches, with the application of cold lotions, prevents the well-doing of such cases. If the erroneous systems of surgery that have appeared in the world could be reduced to any one point of agreement, it would be that there is not a mode of impoverishing the vascular system of its fluids, that practitioners have not contrived and employed, forgetting that life is a forced state, and that animals every instant of time tend to death. —*Med. Gaz.*, Oct. 14.

FRACTURES OF THE THIGH AND LEG.

I beg to state my objection to the straight position in fractures of the thigh and leg. From the commencement of my surgical life I have been in the habit of placing fractured limbs in such a position that the fewest muscles are rendered tense. In fractures of the thigh, notwithstanding the apparent simplicity and adaptability of Desault's splint, I am practically convinced that the patient who is treated in such a manner loses much time during the convalescent stage. The bone may unite; the limb may be rendered straight by its application; but, on a fair comparison with a proper double-inclined plane rightly adjusted, the patient will suffer far less pain in getting the limb accommodated to that passive form than by the extended position. Two things, therefore, are gained, a shorter duration of pain, and many weeks of time in the restoration of the muscular action during the convalescent stage of a fracture. The splint that I use in fractures of the upper third of the tibia extends from the outer malleolus to the upper third of the os femoris, having a hinge-joint opposite the outer condyle of the os femoris.—*Ib.*

THE "WATER CURE."

Facts are not wanting to prove its inefficacy, and cases where incalculable mischief has been entailed upon the patient for life. A poor man in the neighbourhood of Malvern was seized with a severe rheumatic fever, for which he applied to the water doctor, and was submitted to the usual process; first he was wrapped up in blankets, and then a large bed was thrown over him; profuse sweating having been produced, he was removed into a cold bath, and drank as much water as he could swallow; afterwards he took violent exercise. He felt better next day, but then, getting worse, he was informed that his was not a proper case for the

system, and that he must seek advice elsewhere. A labourer residing close to Malvern, six weeks ago feeling headach and feverishness, applied to the water doctor, and had wet towels put round the loins, which he was compelled to wear for three days, when, finding them extremely cold, he gave them up. In a few days, pains in the back ensued, and he has now a large psoas abscess pointing in the right groin. A lady in Worcester, very deaf from birth, applied to the water doctor, who said he would at least ensure her considerable relief; she submitted to the system, and wet bandages also were applied round the loins, from which she took a violent cold. She remained in the establishment for three weeks, when, finding that the expense was by no means compensated for by the relief, she returned home.—*Prov. Journ.*

TREATMENT OF MEASLES IN A WORKHOUSE.

In the great majority of cases, particularly when the disease became mild, little was done except administering gentle diaphoretics in suitable doses. Nitre, in combination with Mindererus' spirit, I generally preferred. When there was much cough, with a degree of hardness in it, even though no bronchitis or pneumonia, a small quantity of liquor antimonialis was added to the mixture. In severe cases the treatment was more decided, consisting of tartar emetic in larger doses, shielded by a drop or two of laudanum to the ounce mixture, with some aromatic water; a combination which prevented the bowels being affected unpleasantly by the remedy, and determined more energetically to the surface. Calomel and hippo were also given freely when circumstances required their use, but in larger doses, and at shorter intervals, than I think is generally practised, a mode of administering them from which the happiest effects were produced. But the principal peculiarity in the treatment was the cautious use of wine, diluted with water, and sweetened, given even when there seemed to be a good deal of inflammation present in the lungs, but of an atonic character, when the infant was worn down by the disease and the indisposition to take nourishment. It was also tried on children who had suffered from convulsions, or seemed likely to be so attacked, from their pale, sickly aspect, large head, and ill-proportioned limbs, and agreed very well with them. Whenever found to answer, the quantity was slowly increased, in proportion to the child's age. In speaking of wine, I do not advocate its adoption when the children are able to resist the illness, but the constitutions I had to deal with were so broken down, in many cases long before admission, that I was compelled to resort to stimulants, and was gratified to find such results from so simple a remedy.—*Dr. Duncan, North Dublin Workhouse, Dublin Jour.*, Oct.

NEW EDITION OF SOEMMERING'S ANATOMY.

Amongst the great anatomical works of Europe few have ranked higher than those of Soemmering, whether we regard his treatise "De Corporis Humani," or his museum of nearly four thousand preparations. The "De Corporis," however, scarcely retains its place on the shelves of the library. Its Latin has tended to this result, as well as the publication of so many other excellent works on the same subject. The work of Hildebrandt, and the manual of Bock, have supplied its place in Germany; whilst in Bichat or Cloquet the French student has a more pleasing source of information, as well as in Cruveilhier, which, with a degree of accuracy hardly ever equalled, unites a facility of expression rarely met with in professional writing. In our own country the work of Mr. Quain unites illustration with accurate detail, whilst the dissecting-room manual of Mr. Ellis stands unrivalled as a work on practical anatomy. To these may now be added the work of Cruveilhier, which the excellent translation of Dr. Madden has opened to every English student. But a new edition of Soemmering's "De Corporis" is now publishing in Germany. It will consist of nine volumes, almost rewritten by the most distinguished anatomists of that country. The second, third, fourth, and sixth volumes are issued. The authors are each especially fitted to complete this work, and add to it the discoveries of later years.—*Brit. and For. Rev.*

Dr. Andrew Wood, of Edinburgh, has been appointed inspector of anatomy for Scotland.

ROYAL COLLEGE OF SURGEONS IN LONDON.

List of gentlemen admitted members on Friday, October 21, 1842, W. D. Marchant, C. Wrixon, W. H. Hole, J. A. M'Donogh, J. J. Horton, J. Lancaster, R. Bunce, E. Hadduck, H. Hill, C. Bond, W. E. Taylor, R. W. Woolcombe, J. Gerrard, W. M. H. Day.

Next week we shall publish in The Lancet a paper of great interest and imperative moment, on the cause to which are ascribable the rarity in Russia of diseases of the organs of respiration, and the great frequency of those diseases in England, indicating at the same time an important means for preventing and mitigating pulmonary consumption in this country. From the pen of Sir George Lefevre, M.D., late physician to the British Embassy at the Court of St. Petersburgh.

DR. G. F. COLLIER.—The letter of this gentleman accidentally went to press last week without a reply to his question, whether we would allow him "three or four pages" of THE LANCET in which to support his recently disputed claims. Another letter from him, dated the 24th inst., calls our attention to this omission. We now beg to suggest a much shorter and more satisfactory mode of setting his claim at rest. Let him draw up, at any length that he pleases, a description of the theory of which he avers that he was originally, or is wholly, the author, and with an account of the observations and experiments that establish its truth, subjoining to this, copies of all the passages or writings (or forwarding the books themselves containing them), whose dates show when these were first announced. Then let him forward to us the packet, which shall at once be carefully and dispassionately examined, and the result given to the world, strictly regarding what is due to the fair fame of Dr. Collier, whose research, ingenuity, and merits, no journalists will be more delighted to honour, where honour is due.* But to promise to give place to disquisitions, assertions, and quotations, which, at the least, are estimated at seven or eight columns of our type, before seeing one line of them, is what we cannot consent to do. If Dr. Collier do not approve of this plan (which involves, on his part, an amount of deference to our judgment and impartiality, that journalists of twenty years' standing may reasonably claim), then he may send to press a paper of any extent for circulation with THE LANCET, free from charge to him for the place that it occupies at the end of the current number. We have one thing only to add in this place, namely, that the controversy began on the side of Dr. Collier, in a charge against Professor Liebig, and not on the part of Professor Liebig in an attack upon Dr. Collier,—a circumstance of some note in the decision we have now made.

Mr. Brodrip.—There are no distinct courses of lectures delivered in London on "lunacy," but a most liberal arrangement has been made at the County Lunatic Asylum, at Hanwell (Middlesex), by which medical students are enabled to witness the treatment of patients in that institution. There are regular days of attendance for that purpose. Something of the same kind has recently been adopted at St. Luke's Hospital, in the Old-street-road.

F. D. (Jewin-Crescent.)—Should any wards in St. Bartholomew's Hospital be converted into a dormitory, for the use of students, at the suggestion of Mr. Lawrence, there ought to be some niche in the room wherein to place a bust of Janus. The governors have no right to employ the hospital for any such purpose as has been suggested. To congregate the students in such a manner would, we are quite certain, be detrimental to their best interests. It is not the project of a disinterested person, but is evidently designed to bring grist to the mill.

A "perpetual Pupil" of the Webb-street School writes as follows:—"Sir, Can you inform me why Mr. Grainger's school in Mase-Pond is closed? I always thought it was a very flourishing establishment. What am I to do as a perpetual pupil to most of the courses that were delivered there? I am in the country at present, but must come to town again to complete the curriculum of my education."—We can only reply, that the closing of the school shows that our correspondent was deceived, and that if a "flourishing" it certainly was not a *profitable* concern. He should apply to Mr. Grainger, from whom, we are convinced, he will receive not only justice but liberality. It ought to be known at once whether the "perpetual" pupils at the Webb-street School are to be admitted in that character at the new school in St. Thomas's Hospital. We shall be happy to receive information on the subject, to convey to our readers.

The statements of *R. T. F.* have been made in another form, as he will see.

A Borough Student.—The party in question may be only acting like an unsuccessful and disappointed speculator, who *traded* upon his principles, and, finding them not a satisfactory source of pecuniary profit, abandons them for some others which are more congenial with his feelings, if not with his professions. We shall learn more anon.

The letter signed *Chir.*, next week, if we have time to append to it the desired remarks.

W. R.—The proceeding is perfectly legal, if the practitioner be a licentiate of the Apothecaries' Hall, but the minor could not himself act as an apothecary, with impunity.

X. X.—It was perfectly plain to every other capacity that the note on his majesty was a quiz.

A Westminster Student.—Dr. Taylor gave sixty clinical lectures last year at University College Hospital, on his own cases, and, in addition, formed a class for the purpose of studying auscultation.

A neighbouring Surgeon.—The title of the learned "professor" has a foundation about equally solid with the commission of "Captain Alertoun," whose origin is pleasantly related in "The Coltness Collection," published by the Maitland Club. The "captain" was a fifth son. Oliver Cromwell, after taking Edinburgh Castle, and marching against the king's army at Stirling, called, with his officers, at the house of Sir Walter Stewart, to refresh. The master was absent, but the good lady, albeit a royalist, offered the general civilities of the house to the visitor,

* The manuscript must be a fair clear text, much more easily deciphered than the usual hand-writing of the worthy doctor.

who as honourably drank his good wishes for the family in "a glace of proffered canary. All passed easy," says the by-gone genealogist, "and our James, being a lad of ten years, came so near as to handle the hilt of one of the swords, upon which Oliver strocked his head, saying, 'You are my little captain,' and this was all the commission our captain of Alertoun ever had."

An Edinburgh Student in London.—The Apothecaries' Act came into operation on the 1st of August, 1815. We cannot tell what the company has done with the money which it has received under the Act. We believe, however, that it has been almost wholly expended for the private benefit of the court of examiners. They have not instituted, with any portion of it, so far as our knowledge extends, a single scholarship or endowment. A gingerbread medal or two is unworthy of notice.

C. C. C.—Mesmerism is too gross a humbug to admit of any further serious notice. We regard its abettors as quacks and impostors. They ought to be hooted out of professional society. Any practitioner who sends a patient, afflicted with *any* disease, to consult a mesmerising quack, ought to be without patients for the rest of his days.

Anti-quack. — The description of the "throat-cutting apparatus" in Sackville-street is, in its present form, too personal. The writer, by a careful revisal, may adapt it for a place in our columns.

A Non-professional Reader states that for weeks he was subjected to great torture in a certain notorious "Eye Infirmary," and that he quitted it only after his left eye was *burnt* out; that he then went to a surgeon who he believed to be a respectable person, and that by him his other eye has been *put* out, and now he wants to know if he ought to pay the operator. Yes; with a copy of a writ from the Court of Queen's Bench. If the poor man will apply to our office, he shall receive the name and address of a solicitor who will see that justice is done to him. It is not the first, the second, or the third time that complaints have been made to us respecting the cruelties and extortions of the quack in question, whose career, we can tell him, is about to close.

Mr. A. Tennant's letter was overlooked. If there be fifty adjournments it is only one inquest. The coroner, in consequence, has only one fee for all his attendances. The surgeon can have no more. The legal charges, therefore, for the post-mortem examination, analysis, and attendances, is the one fee of two guineas.

A Manchester Surgeon.—We do not believe that Monsieur Lafontaine is residing with Dr. Elliotson in Conduit-street. They know too much of each other to be associated in the close bonds of friendship.

A Pupil of the Hospital.—The general history of such a dub might be useful, and professional illustrations of his want of capacity published with advantage. Our correspondent should authenticate his communication by forwarding his name and address, which will be held confidentially.

The case of "Deafness, successfully treated and cured" by a measure termed "Medicated vapour douche," and dilation with tents, is not suited for our columns.

One of Mr. J. Johnson's Pupils considerately suggests that the "Old Student" of Kinnerton School is over fastidious in his horror of the cackleology of Mr. J. J. at lecture, and advises said student, if he do not usually indulge in laughter, to try that remedy at once for his complaint, whether he directs it at his own jokes or some one else's. The personal vulgarisms this correspondent also denies to have been ever used. A letter in another part of our Journal this week, renders two on the same subject superfluous.

Dr. Finch, of Laverstock-House Asylum, Salisbury, informs us, in a letter dated Oct. 20th, that it is not true that the "non-restraint system, and the occupation of the insane patients at Hanwell, are exclusively confined to that establishment," for that "the non-restraint system has been carried out for more than thirty years at the Laverstock Asylum, under his (Dr. Finch's) direction, and with the same salutary and practical results as at Hanwell, never more than from one to three patients per cent. having been under restraint at the said asylum at any one period." For proof of this Dr. Finch refers to the visitors' books; to Dr. Thomas's work on the Practice of Physic, published nearly twenty years ago, and to a certain portion of the evidence recorded before the committee of the House of Commons in 1815, in which are also described the "varied amusements and occupations" provided for the patients. No statement to the contrary having appeared in our columns, the whole of the letter would more suitably appear in the department of advertisements.

Albany-street, Edinburgh, Oct. 13th.—Mr. Editor, Could you inform the profession here what are the qualifications of Dr. Andrew Wood for the inspectorship of anatomy for Scotland, to which he has been appointed? He is a youth who has not yet left his father's house. Nobody knows of his having any practice, and his business qualifications have yet to be seen. His talents appear to be better known in London, and we are anxious therefore to obtain thence some account of them. Very truly yours, &c.

Edinensis.—The salary of an inspector of anatomy is 100*l.* per annum. The amount is regulated by Act of Parliament, and cannot be increased by the minister.

The reply of *Mr. Eagle* has been received, but time has not this week allowed us to examine it, in order to determine when or whether so long and copious a communication can have a place entire, in our pages.